The National

Future Farmer

August-September
1965

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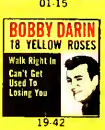

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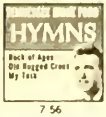
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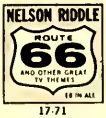

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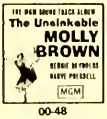

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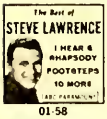

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The National Future Farmer
Owned and Published by the Future Farmers of America

AUGUST-SEPTEMBER, 1965

THE MAGAZINE FOR YOUNG MEN IN AGRICULTURE

VOLUME 13 NUMBER 6

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21 Farming—My Life's Work

THE STORY OF WAYNE JOHNSON, AN AFTON, OKLAHOMA, FFA MEMBER WHO WON THE 1964 AWARD AS BEST CROP FARMER. LEARN HOW THIS TOP CROP FARMER GOT AN EARLY START BECAUSE OF A "FAMILY APPROACH TO FARM ESTABLISHMENT" WHICH ALLOWS FOR A MORE EFFICIENT USE OF FARM MACHINERY TODAY AND EVEN WITHSTOOD A TORNADO.

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29 Promoting Rural Traffic Safety

WHEN IT COMES TO PUBLIC SERVICE, FUTURE FARMERS ARE ALWAYS OUT IN FRONT. WE FIRST REPORTED ON THE SMV (SLOW-MOVING VEHICLE) EMBLEM BACK IN APRIL OF 1964 AFTER A MINNESOTA CHAPTER STARTED PROMOTION OF THE EMBLEMS AS A PROJECT. THIS IDEA HAS NOW SPREAD. NEBRASKA PLAN SHOULD LEAD TO WIDER DISTRIBUTION.

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Our Cover

Tom Lassack, Fullerton Chapter, and his brother installed slow-moving vehicle emblems on equipment which is transported along public roads during haying season.

An FFA purchasing co-op will make the emblem easily obtainable at reduced cost as a chapter community service project.

PHOTO BY C. A. CROMER

THE NATIONAL FUTURE FARMER is mailed every two months on the following dates:

January 20	**FEBRUARY-MARCH** Issue
March 20	**APRIL-MAY** Issue
May 20	**JUNE-JULY** Issue
July 20	**AUGUST-SEPTEMBER** Issue
September 20	**OCTOBER-NOVEMBER** Issue
November 20	**DECEMBER-JANUARY** Issue

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What do you know about pedestrians?

Here are the names of different types of pedestrians. As a driver, do you know where or when to look for them?

1 The Escape Artist thinks he can get out of any situation. Know where to find him?

In the middle of the street, surrounded by traffic. He'll twist himself out of shape to prove he can escape to the curb. Statistics show he gets caught too often. 30% of all pedestrian accidents involve this type. When you spy him, give him a beep of the horn and a lot of room.

2 The Magician appears from out of nowhere and comes in all shapes and sizes. Where'd he come from?

Usually from between parked cars. One time he's a downtown shopper. The next he's a small boy on a suburban street. He's tricky that way. Best precaution is to slow down whenever you're passing parked cars.

3 Walky-Talky is up next. You've seen him before, but where?

At an intersection, crossing against the signal. He's either talking to himself or somebody else. One sure thing, his mind isn't on the traffic. Check the crosswalk for him before you check for cars. He gives you less time to react.

4 The Dasher is someone you're bound to meet. Especially at certain times of the day and night. Where and when?

In rush hour traffic, morning and evening. During these hours, he'll do anything to cross a street. It's hard enough to see him during the day, but even harder at twilight. So stay alert and be prepared for the unexpected.

5 The Phantom prowls around at night. He gives you a ghost of a chance and that's all. Where's his hideout?

Just beyond the reach of your headlights. There's one way to combat him. Make sure you can stop within the distance you can see.

6 The Mighty Mites are out when you're coming home from school. Any idea where they're found?

School buses are an obvious place. Grade school children are taught to cross in front of them when they get out. So be most careful there, if your state law permits you to pass a stopped school bus. But bus stop or anywhere, exercise extreme care when kids are on their way home.

7 What tire is first choice for original equipment on most new cars and replacement equipment on most used cars?

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Your Editors Say...

AS FFA MEMBERS, you can be proud of the success your organization has enjoyed to date. It has been serving farm youth since 1928 and will no doubt continue to do so for many years to come. Though reasons for this success are many, there are two groups of people who have made significant contributions.

Your adult leaders—local advisors and state and national officials—have given freely of their time, council, and advice to guide the organization over the years. Many times their day has stretched into one of long hours.

The other group is made up of friends of the FFA who are in business, industry, and other organizations. On the national level, these friends and supporters are organized into the Future Farmers of America Foundation.

By the time you read this, many of these men will have been to Washington, D.C., in the interest of you and the FFA. On July 26-27, the FFA Foundation Board of Trustees considers the business of the Foundation and the awards program to better serve you and the FFA.

On July 28, a joint meeting of the FFA Foundation Board of Trustees, national FFA officers, and Donor Representatives to the Foundation will approve the budget and make other plans for the coming year. Present indications are that Mr. William Moore, president of the American Oil Company and chairman of the Foundation Sponsoring Committee, will report an all-time high in contributions to the Foundation.

The final two days of the week, July 29-30, the FFA Board of Student Officers and the Board of Directors meet jointly. Major items on their agenda will be plans for the National Convention and the report of the Special Study Committee on changes in the FFA.

It is our pleasure occasionally to pass along compliments we hear about Future Farmers. The editorial cartoon on this page is one of them. It appeared in *The Commercial Appeal* of Memphis, Tennessee, and greeted members of the FFA when they arrived for their 37th annual state FFA convention. The cartoon was drawn by *The Commercial Appeal*'s renowned staff cartoonist, Cal Alley. The original is now prominently displayed in the Regional Office of Agricultural Education, Jackson, Tennessee. Before presenting the original cartoon to Mr. J. P. Hall, regional supervisor, Mr. Alley penned an additional note: "To the Future Farmers, thanks for making our future look brighter."

A Breath Of Fresh Air

Incidentally, we first learned about the cartoon when our national advisor, Dr. A. W. Tenney, called to say he had just received a copy sent to him by Mr. Raymond Firestone of the Firestone Tire and Rubber Company, Akron, Ohio.

Word about the FFA sure gets around. Every member should keep this in mind when wearing his FFA jacket and conduct himself in such a manner that comments about the FFA will always be complimentary.

Wilson Carnes

Editor

The two trophies above, modeled after the famous Danforth Farm Youth statues at Gray Summit, Missouri, and in Washington, D. C., will be offered again this year by the Ralston Purina Company to outstanding young men and women across the country.

Ask a Purina dealer or a Purina salesman for details on these awards, or write Dept. 259, Ralston Purina Company, Checkerboard Square, St. Louis, Missouri.

PURINA CHOWS

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Looking Ahead

IS THERE A SURPLUS PROBLEM?

Gunnar Myrdal, Swedish economist quoted in recent U. S. Supreme Court rulings, has completed a study saying a world food shortage will become acute in ten years or less. How fast the problem is developing was outlined in a speech by Anthony Cascino, vice president of International Minerals and Chemical Corporation. "Since the beginning of time, the first billion population mark was not reached until 1850, but it took only 80 years to reach the two billion mark and 30 years to reach the three billion mark (1960). The fourth billion is expected by 1975." In 15 years the population will grow by numbers that previously took ages. Myrdal says, "U. S. will have to take the lid off farm production to maintain world order."

NEW IDEAS ON INSECT CONTROL

Bat chirps and living pesticides are showing promise in man's fight against insect damage. Broadcasts of bat chirps repel rather than destroy, but Nebraska tests over a plot of sweet corn reduced the European corn borer by more than 50 percent. The cabbage looper worm and cotton bollworm may soon be controlled by a virus insecticide. The viruses hibernate inside tiny capsules and can be sprayed like other pesticides.

BANKERS' HOURS FOR DAIRYMEN

Would you pick a vocation that required 14 hours from the start to the finish of the day's work? Many dairymen have followed such a schedule, as it was believed necessary to milk at exact 12-hour intervals. Based on previous research by Minnesota and Cornell, workers at Kansas State University changed their milking schedule to 8 a.m. and 4 p.m. so that dairy workers would no longer be required to work split-shifts. Total milk production did not change significantly, and work output per man increased by 40 percent.

BLOAT PREVENTIVE MAY BE AVAILABLE SOON

Scientists working at Wisconsin, Iowa, and Kansas have announced developments that may eliminate the bloat hazard. The University of Wisconsin has pinned down the enzyme (pectin methyl esterase) in forage which is responsible for cattle bloating, and Iowa and Kansas workers have reported the successful use of poloxalene in controlling bloat. It is not yet available commercially.

"ON COMMAND" MARKETING OF LIVESTOCK

In the last issue we reported a development that could lead to "on command" marketing of crops. Now a breakthrough in timed breeding will make the same thing a reality for livestock—at least beef cattle. Repromix, premixed in exact amounts by feed manufacturers, is one of several new products that works this magic. Beef animals on the feed for 18 days will come into heat 1½ to four days following the end of the feeding period. After visiting the Upjohn research farm, Editor Carnes reports, "You have to be sure every animal gets its feed each day, but the calves we saw were as uniform in size as you'll ever see."

WORTH WATCHING

With wheat averaging only 2 cents per 100 pounds higher than corn, wheat is within range to be considered for a beef feed, as it is rated 5 percent higher than corn as a livestock feed.

Leaving poultry waterers dirty during the first three to four weeks of a chick's life will improve its immunity against coccidiosis, say Cargill researchers.

Savings of $3.00 to $6.00 an acre may result from planting cotton directly on the previous year's bed with minimum of seedbed cultivation, according to Felix E. Edwards, Mississippi State University.

Pigs with access to a cooling spray of water under a shade gain weight faster than those with access to shade only, says a report given at the 1965 meeting of agricultural engineers.

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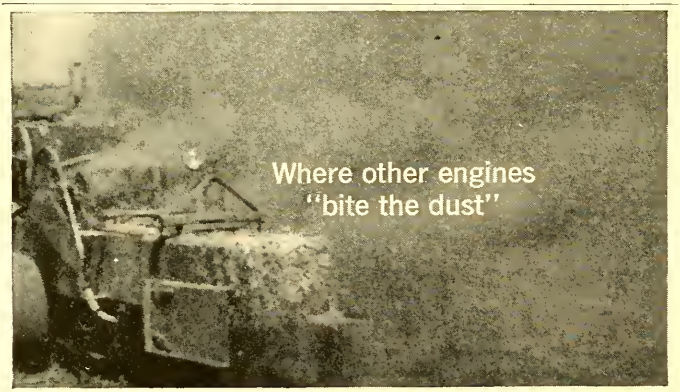

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81—The Future Cattleman—A well-written 80-page booklet contains valuable information for the prospective stockman. Breed selection, feeding, shelter, and diseases are subjects covered in detail by this four-color book. (American Hereford Association)

82—Fly Rod Fishing Made Easy—A new booklet that dispels fly rod myths and mystery for beginners. In "Pavement's End," Art Smith of the *New York Herald Tribune* said recently: "I hope all who hold fly fishing in awe read this booklet. There will always be degrees of proficiency in fly fishing, as in any sport, but to pass up this fun because it has been misrepresented as difficult . . . this truly is wrong." (Cortland Line Co.)

83—The Laser—Those who saw the James Bond movie "Goldfinger" watched the latest Hollywood application of Lasers—burning down the steel gates of Fort Knox. Though it sounds like fiction, the fact is that there is such an invention, being put to other uses, of course. This booklet is from a talk given to high school students by an expert on the "fanciest flashlight ever invented." (Bausch and Lomb)

84—Major Fungus Diseases of Vegetables, Field Crops, and Fruits—A 20-page booklet that gives symptoms and full-color illustrations of major fungus diseases of many vegetables, field crops, fruits, and nuts. Also listed are suggestions for controlling diseases in field crops. (Rohm and Haas Co.)

85—Welcome to the Highway—Two years of intensive research involving safety authorities, educators, clergymen, parents, and teen-agers themselves went into the development of this 24-page booklet. Tells how to get the family car more often and how to play it "cool" in cold weather. (Goodyear Tire and Rubber Company)

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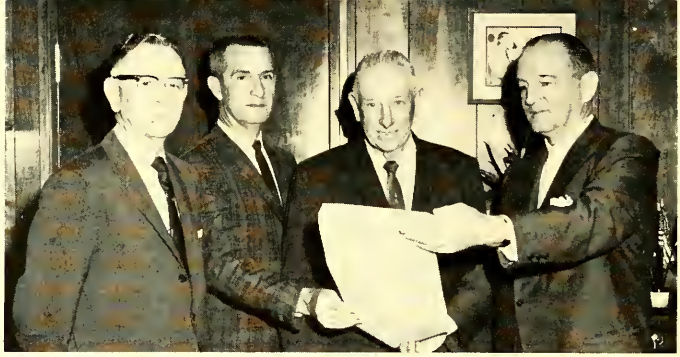

Florida House Speaker, E. C. Rowell, right, presents a signed and sealed copy of the resolution to Mr. Wood. The resolution credits his contributions to vo-ag.

Honored By State Legislatures

Florida state FFA advisor recognized for service to education and farm youth.

THE FLORIDA House of Representatives passed a resolution commending Harry Evins Wood for his many years of service in the cause of agricultural education. Mr. Wood has served vocational education for a total of 41 years.

Resolution No. 684 specifies his selection as a Master Teacher, "Man of the Year" in Florida agriculture, president of the Southern Regional Conference of Supervisors and Teacher-Educators, and president of the National Association of State Supervisors of Agricultural Education.

Resolution 684 reads in part: "WHEREAS, under the direction and inspiration of Harry Evins Wood, five Florida students attained national office in the FFA, among them the Honorable Doyle Conner, Commissioner of Agriculture; Bill Gunter; Hal Davis; James Quincey; and Victor Butler; and

"WHEREAS, two Florida students of Harry Evins Wood have attained national recognition as Star Farmers of America, Forest Davis and George Culverhouse, and

"WHEREAS, many thousands of young men have benefited from his instruction and through his efforts have become better farmers and better citizens, NOW, THEREFORE,

"Be It Resolved by the House of Representatives of the State of Florida, the Senate Concurring:

"That . . . the 1965 Legislature does here and now commend and acclaim the efforts of Harry Evins Wood on behalf of the youth of our state, as an outstanding example of the contribution made by the members of the teaching profession . . . to the future of our youth, state, and nation."

Minnesota FFA commended for notable program of citizenship and leadership.

THE MINNESOTA House of Representatives unanimously passed a resolution commending the Minnesota FFA Association for their outstanding program and contribution to the development of citizenship and rural leadership qualities in its members as well as contributing to the agricultural economy of the state of Minnesota.

The resolution specifically mentions the FFA's wild mallard duck program, tree planting projects, installation of slow-moving vehicle emblems, statewide anti-smoking education program, tools for the Congo, Self Help Machinery Program, corn for Camp Courage scholarships, and speech therapy building funds.

The resolution reads in part: "WHEREAS, this organization has an all-time high membership of 14,236 students enrolled in high school vocational agriculture in 285 secondary schools in Minnesota; and

"WHEREAS, members of this organization are contributing to the agricultural economy of this great state of Minnesota through the application of recommended practices in their investment of nearly four million dollars in farming programs; now therefore,

"BE IT RESOLVED that the House of Representatives commend the Minnesota Association of the Future Farmers of America for their program and significant contributions to the development of citizenship and rural leadership."

The resolution was introduced and sponsored by House members Honorable Harvey B. Sathre, Wendell Erickson, Douglas Sillers, Frank DeGroat, and Paul Overgaard.

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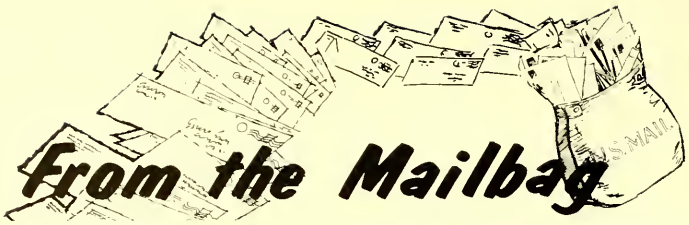

Nashville, Tennessee

I was pleasantly surprised when I read the feature story "Safety Campaign Gets Results" in the June-July issue. I was the teacher of vocational agriculture at Dickson High School for four years and during this safety campaign.

I know that a carefully planned safety campaign can be very successful in the conservation and preservation of life, limb, and property. It is, however, very essential that the entire community be involved in a cooperative effort. It is a thrilling experience to win the National FFA Foundation Safety Award, but it is more gratifying to realize that your efforts have helped to develop a safety-conscious community.

Harold D. Lineberry

In the June-July issue, a reader considering a career in agricultural education asked vo-ag teachers why they entered the field of education. Below is a letter he received in reply.—Ed.

Clarksburg, West Virginia

I wish to state that there are many opportunities today in the field of agriculture. The choice you make should be your decision. However, if you enjoy:

1. a diversified type of occupation,
2. cooperating with others,
3. farm work and other agricultural activities,
4. using your own initiative,
5. seeing results from your efforts, and if
6. you want to make a good living but not a large salary,

then you should consider qualifying to teach vocational agriculture.

The eighteen years that I spent in teaching vocational agriculture and the past eighteen years in supervision work have been most enjoyable and satisfying in many ways. I cannot help recommending to any interested young man the rewarding features of teaching vocational agriculture. I made my decision to teach in my junior year in college after majoring in dairy technology.

Best wishes to you in the years ahead regardless of what field of agriculture you choose. There are advantages and disadvantages in each.

W. H. Wayman
Executive Secretary

Homer, Michigan

I am writing concerning girls in the FFA. Let's stop squabbling and vote on it. We could hold elections in every chapter with a committee appointed by the chapter president in charge. They would report the results to a state committee appointed by the state president. They would send their results to a national committee headed by our national president. This is the only way that I can think of. Can anyone think of a fairer way?

Ricky Rockwell

Jamestown, Missouri

As the controversy of admitting girls into the FFA nears its boiling point, it is well to take a look at what the "friends of FFA" and donors think about this move. Too often we tend to cater to our own personal needs and satisfactions rather than work for the betterment of our organization.

The stakes will be high at the 1965 National FFA Convention. We can lose the faith and support of our former loyal donors, or we can let the world know that the Future Farmers of America is an organization which stays fast to a most secure foundation but always strives to reach heights unlimited.

I would like the opinion of other Future Farmers in regard to the thinking of donors and supporters toward this issue.

Phil Hein

Mer Rouge, Louisiana

The FFA is one of the few organizations left in which boys can participate in a common interest. If the FFA constitution is amended to allow female members, may I at least suggest that the National Foundation add a few new awards such as Cooking, Housecleaning, Dishwashing, etc.

George Sims

Kellerton, Iowa

I believe that girls who plan careers in agriculture should be allowed to study it in school and boys who plan to be associated with the domestic arts should be allowed to study home economics.

However, I can no more feature girls as members of the national organization of the FFA than I can feature boys being members of the Future Homemakers of America.

Raymond E. Doser

Louisville, Illinois

I have seen and heard a good deal lately on "modernizing" the FFA. As a member who is truly fond of the FFA and what it does for farm boys, I am shocked.

Why should we change our name, our creed, or our basic setup? Are we ashamed of farming? Anyone who does not want to be called a Future Farmer certainly has no future in farming, nor will he succeed in the businesses which serve farming. Our organization, as it is at present, does more for farm boys than any other variation possibly could.

As far as allowing membership to girls, I believe the founders of FFA firmly believed that girls have no place in the FFA. To support this, I found in a copy of the Official Manual (1958 edition) the following excerpt from the National Constitution as revised and amended at the 24th National Convention, October, 1951:

Article IV, Section B. Active Membership

"Any MALE student who is regularly enrolled in an all-day or day-unit class in vocational agriculture is entitled to become an active member of any chartered FFA chapter."

This shows how Future Farmers before us felt. As it is, the FFA is the greatest youth organization in the world, bar none, and let's keep it that way!

John Hundley

Kansas, Illinois

I have read the "Mailbag" about girls joining the FFA and think it would be O.K. Many girls help their dads in the fields, hauling feed with the truck, etc. I think with girls in the FFA, the boys would strive harder to win chapter and state contests.

I think girls should not be allowed to wear the FFA jacket. Instead they should have a special jacket of their own with the emblem and name on it.

Jim Taber

Canby, Oregon

Thumbing through my brother's magazine, I was attracted to the "Mailbag" column. When I read the letters about girls in FFA, I had to write you my opinion, which is "yes."

The boys in our chapter don't want girls either, and I admit we girls would be scandalized if boys tried to join FHA. But a girl who has a sincere interest in agriculture has a right to be a member of FFA, and you narrow-minded boys should let her in.

I personally would not be interested in some things you do in vo-ag class, and some FFA activities would disappoint me. Welding, soil judging, making speeches, and keeping a record book are distasteful to me, although I realize how important they are.

It is rumored that a nearby chapter is allowing girls this year for the first time—the only school in Oregon to do so. When I told my brother this, he was simply terrified. I think a change of attitude is needed on the boys' part. Anyone who intends to be a farmer, boy or girl, has a right to membership in FFA. If you guys help the girls who are members, they may be so grateful none of them will run for national offices.

I notice you have girls on your magazine staff. They must be all right because the magazine is wonderful.

Anne Hulit

Waseca, Minnesota

Thank you for letting me know that I can renew my subscription to *The National FUTURE FARMER*. I like the magazine and didn't think I could subscribe when I got out of school.

Gene Hager

We are pleased that you want to continue receiving the FFA magazine, Gene. Anyone can subscribe and former members are encouraged to do so.—Ed.

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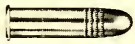

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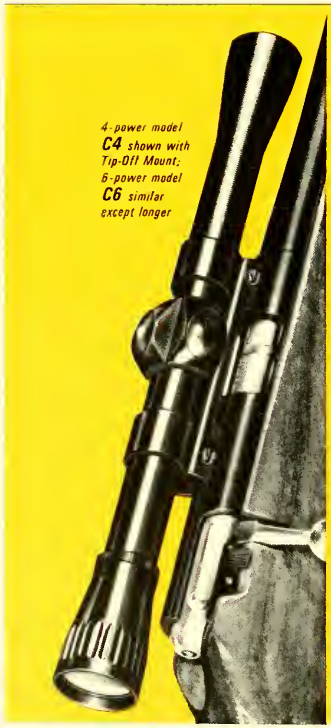

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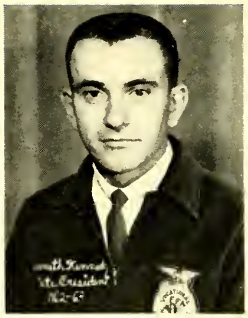

Kenneth Kennedy

Kennedy Issues Call to Convention

NATIONAL FFA President Kenneth H. Kennedy has issued his call for state associations to send delegates to the 38th National FFA Convention, scheduled for Kansas City's Municipal Auditorium, October 13-15.

State associations in good standing with the national organization are requested to send two official delegates plus two alternates from their active membership. The official delegates will need to arrive in Kansas City before 10 A.M. on Tuesday, October 12, to register. The Officer-Delegate Luncheon is scheduled at 11:45 A.M. that same morning.

Also invited that week are candidates recommended for the American Farmer Degree, candidates for national FFA office, and others receiving awards. Local chapters may send six members, or 10 percent of their total membership, in addition to those taking part in the program.

A Vespers Program is scheduled for Tuesday evening, and a matinee performance of the American Royal Livestock and Horse Show will be held on Friday, the final day of the Convention. In between, delegates and officers will execute organization business, recognize FFA achievement, demonstrate leadership training, hear inspirational speakers, and elect new officers.

"The 38th National Convention will be a highlight of our FFA year," says President Ken Kennedy. "I urge all Future Farmers who attend the convention to be present for all sessions from Wednesday morning through Friday evening. With the help and cooperation of all present, our convention can be a great success. I look forward to seeing you in Kansas City."

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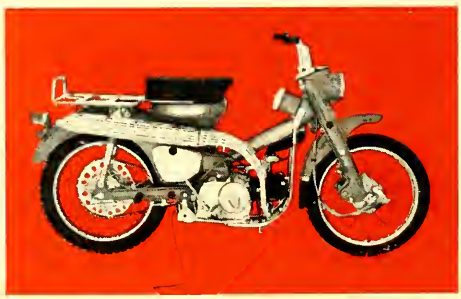
Shock Absorbers	Hydraulically dampened front and rear
Tires	Rugged "knobby" type for extra traction
Frame	"Step-through" design for easy mounting
Clutch	Automatic multiplate wet type
Muffler	USDA Forest Service-approved spark arrester



'I plan to make farming My Life's Work'

A National FFA Foundation AWARD WINNER

THE FFA Foundation's 1964 Proficiency Award for Crop Farming was won by Wayne Johnson of Afton, Oklahoma. His individual achievements are many, but his success is the result of a "family approach to farm establishment," which met the requirements of changing times and withstood a tornado.

Wayne lives with his parents, Mr. and Mrs. Leonard Johnson, and an older brother, LeRoy, on a 1,120-acre farm 2½ miles northwest of Afton, Oklahoma.

A third dimension of this story, as Wayne would readily tell you, is vocational agriculture in the person of his vo-ag instructor and FFA advisor, Mr. Sam Victor.

"I started assisting my father with farm work at an early age," Wayne says. "When I was ten years old, my parents gave my brother and me each a tractor and plow, and we started our first wheat project. By the time I enrolled in vocational agriculture, I had six head of beef cattle, 70 acres of wheat, and equipment valued at more than $5,000."

His early start in farming is not unusual, as his parents wanted the family farm to grow and were anxious to create and maintain his interest in farming and livestock. But in 1960, the year he was to enroll in vo-ag, his home and farm buildings were completely destroyed by a tornado.

Wayne's FFA records are full of facts and signs of determination which the tornado left in its wake. He helped his father and brother design and construct a new machine shed, beef loading shed, Quonset building, and new home. He also helped with most of the electrical wiring.

That same year he used a portion of his savings and borrowed money to purchase 160 acres of cropland and 100 acres of pasture in partnership with his brother.

By his senior year Wayne had an investment in farming of more than $36,000. He and his brother own a 320-acre farm near home, which they farm in partnership. Improvements include a modern seven-room house, a barn, sheds, and silo. This land, plus land which they rent, is used to produce the same kind of crops as those on their father's farm. This "family crop plan" allows for a more efficient use of farm machinery. During his junior year Wayne and his brother purchased a new 14-foot combine, and he personally owns a tractor, plow, disk, and harrow.

Enterprises in his farming program which helped him win the crop farming award include 81 acres of wheat, 10 acres of oats, 56 acres of soybeans, 20 acres of milo, 44 head of beef cattle, and 10 feeder pigs.

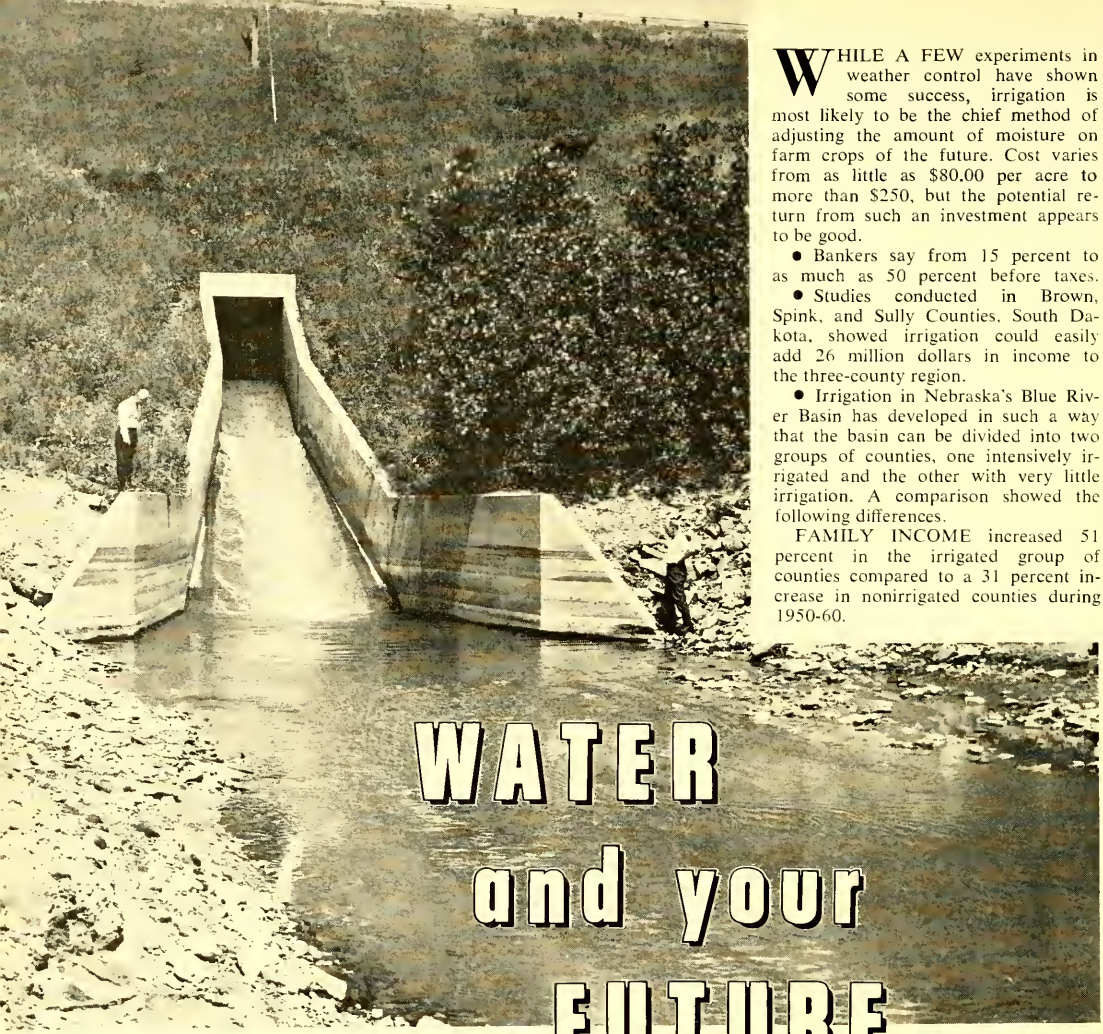
Wayne has been active in his FFA chapter, serving as secretary and president. He has helped to organize a leadership training school and has served as chairman of the Supervised Farming Program Committee and member of the farm management and land judging teams. Wayne exhibited winter oats, which he grew, at the state fair, winning champion honors, and was voted "Mr. Senior" by his graduation class.

"I plan to make farming my life's work and want to be prepared to do a good job," Wayne told us. He is preparing for the future by studying agriculture at Northwestern Oklahoma A&M. Wayne commutes 12 miles between school and home to manage his farming enterprises.

Wayne commutes 12 miles between home and college to manage his farm.

Wayne's father, left, and Advisor Sam Victor help make important decisions.

Wayne finds plenty of use for this 14-foot combine that he purchased in partnership with his brother. Wayne personally owns a tractor, plow, disk, and harrow.



WATER and your FUTURE

WHILE A FEW experiments in weather control have shown some success, irrigation is most likely to be the chief method of adjusting the amount of moisture on farm crops of the future. Cost varies from as little as $80.00 per acre to more than $250, but the potential return from such an investment appears to be good.

- Bankers say from 15 percent to as much as 50 percent before taxes.
- Studies conducted in Brown, Spink, and Sully Counties, South Dakota, showed irrigation could easily add 26 million dollars in income to the three-county region.
- Irrigation in Nebraska's Blue River Basin has developed in such a way that the basin can be divided into two groups of counties, one intensively irrigated and the other with very little irrigation. A comparison showed the following differences.

FAMILY INCOME increased 51 percent in the irrigated group of counties compared to a 31 percent increase in nonirrigated counties during 1950-60.

By
Leu Richardson

A report on what irrigation can do for yields and profits. Also a look at new tools for better use of water.

Sprinkler systems are being put to new uses such as "air-conditioning" crops and applying manure and insecticides.

LAND USE AND CROP PRODUCTION: Net income information on seven major crops significantly favored irrigated counties. For example, net income from irrigated corn exceeded that of nonirrigated corn by $15.00 per acre.

LIVESTOCK PRODUCTION: Two-thirds of all cattle fed were on irrigated farms, and twice as many pigs farrowed on irrigated farms. Irrigated farms also produced almost twice as many bushels of feed grain.

OFF-FARM IMPACT: Information from the census of agriculture indicated that farmers in the irrigated counties spent 3.5 million dollars more for fertilizer, machine hire, labor, and fuel. Prior to irrigation, they spent slightly less for three of those items than did the dryland farmers. Population figures showed that the loss of people dropped from 5,000 to 900 in irrigated counties, whereas nonirrigated counties continued to lose people at the same rate. The difference, however, was in the towns and villages and not the farms. Employment figures indicated the same thing: little effect in the agricultural sector but an upward trend in the retail and service sector.

While these changes and trends in the Blue River Basin may not have been caused by irrigation, they are so closely correlated that those who plan a career in farming will not want to overlook what irrigation can do for yields and profits.

As for better ways to use the irrigation water, we found the following developments.

MOISTURE BALANCE: At the winter meeting of the American Society of Agricultural Engineers, Gail W. Eley, irrigation engineer with the USDA, described two instruments that will give farmers a quick and accurate method of determining the moisture content of the soil directly in the field and thus answer the two questions of when to irrigate and how much water to apply. The companion tools are a carbide moisture tester and an Eley Volumeter. Previously soil samples had to be taken or sent to laboratories for processing. The Soil Conservation Service has developed irrigation charts which show at a glance how much available moisture remains and how much water to apply after reading the tester. Cost is about $280.

In the future sprinkler manufacturers may wheel a device called an infiltrometer into your field before designing the correct sprinkler head, nozzle size, operating pressure, distance, and "time-set" to fit conditions on any given field. The machine was recently developed by the USDA.

AUTOMATED IRRIGATION: Push-button irrigation is also close at hand. Engineers at Montana State College have developed radio-controlled dams and head gates. As water contacts the transmitter, a signal is sent to a receiver which either closes or opens the system. The system will cost about $300.

In another development at Texas A&M University, a little one-horsepower submergible pump linked to automatic water controls has produced good cotton yields with 40 percent less water. The trick is a sub-irrigation system that uses polyethylene pipe placed 18 inches below ground by a simple, tractor-mounted chisel. Researchers believe farmers may some day use a similar system. However, costs will have to come down.

NEW USES: As reported in our February-March "Looking Ahead" section, Dr. Robert L. Carolus, of Michigan State University's Department of Horticulture, has used a new irrigation technique that in effect air-conditions vegetables. The method develops a light spray which cools vegetables, reduces their transpiration, and thus conserves plant energy for producing higher yields. The reduced temperatures also prevent blossom drop, which often occurs with high temperatures.

American farmers are showing increased interest in another new use of sprinkler systems that their European counterparts have been using for some time. They apply manure directly to fields by sprinkler systems. Both irrigation and fertilization can be accomplished in one operation. Such a set-up is suited to the new livestock confinement systems.

One manufacturer is producing equipment that handles up to 10,000 gallons of manure per hour. A self-cleaning pump and gun sprinkler that handles straw and bedding without clogging are included. In some cases sprinkler systems are being used for complete "Chemigation" or application of herbicides and insecticides.

THE SEARCH CONTINUES: In the Midwest, where farmers faced drought in 1964 and floods in 1965, everyone agrees "there ought to be a better way."

Substituting air for water and using plastic models and mathematical formulas in a multistoried building on an island in the Mississippi River at Minneapolis, engineers simulate structures which may prevent floods like the one that occurred in the area this year. Farther west, where water has always been a problem (Arizona uses three million more acre feet of ground water than is being put back by rain and snow), scientists also seek answers. At Colorado State University engineers are using an "electric analog model" to plot changes in ground water flow. This computer-like network substitutes electric current for water flow. Based on waterbearing formation in the area, they can determine in a second what effect one new well will have on next year's growing season. Ten seconds of operation gives a picture of ground water levels for the next 100 years.

All of these efforts may change farming as you know it — for the better.

Net income from irrigated corn usually exceeds that of nonirrigated corn. This system has an elevated ditch.

This sprinkler irrigation system operating in a Florida grove shows proper method. Also gives frost protection.

Serving the conservation cause with a custom tree planting service is winning this chapter friends and trip wampum.

Kiel FFA members plant trees on steep, rocky ground as FFA Advisor R. A. "Kelly" Kramer oversees operation. Project money goes for FFA fishing trip.

MODERN DAY

Johnny Appleseeds

Advisor Kramer demonstrates the use of a tree planting machine. Not all terrain lends itself to this method.

By Keith Henley

BLEAK HILLS near Kiel, Wisconsin, are getting a face lifting. The last glacier carved and molded the topography and left in its wake both good and bad farm land. Early farmers cleared more of the hills than good land use would prescribe. The Kiel Future Farmers, under Advisor R. A. "Kelly" Kramer, took a hard look at what they saw and decided to do something about it.

Their decision was to set up a custom tree planting service for area farmers. Twelve years, with some 300,000 trees planted by the group, have proven the success of the plan. The Kiel Chapter has made a lasting impression on the folk and countryside around this eastern Wisconsin community.

The tree planting work has not been easy. Yet it has rewards in the deep sense of pride and satisfaction on the part of the Future Farmers. As Kramer puts it, "Tree planting is hard, back-breaking work. One is at the mercy of the weather, and tractors and tree planting machines break down. Nevertheless, we get quite a kick out of guessing what might happen next." When planting trees each spring, members work after school until dark, and dawn to dusk during the weekends. Rain doesn't even stop them unless the tractor bogs down or it's too wet to plant properly.

A nominal charge of 1 cent a tree is made for the planting service, and the landowners are glad to pay it. "Kramer and his boys are performing a most valuable service to the farmers in this vicinity," said Ernst Luethge, landowner near Kiel, after the FFA had planted 60,000 trees for him. "Like me, most of them don't have the time or equipment to undertake a tree planting project on their own. I'm too old to get anything out of it, but this will make a much better place to live for those who follow us," he said.

After the grueling planting season is over and soon after school is out, the FFA members head north for their annual fishing trip to Canada. Money made from tree planting is earmarked for the much deserved trip.

The FFA was recently cited by the Director of the Wisconsin Conservation Department, L. P. Voight. In a letter of commendation, he told Kramer, "Your outstanding accomplishments . . . are a valuable contribution not only to the cause of conservation but also to the future benefit of Manitowoc County and the whole state of Wisconsin."

Future Farmers learn through practical experience how land should be managed during the project. The toil and sweat of hand planting trees on steep, rocky hillsides is good tonic for handling their own farms properly. Kramer, a soils expert, works in plenty of education with the project.

Tree-studded hillsides will long recall what is being accomplished by this chapter. As one farmer said, "Every tree that is planted will serve as a living tribute to the Kiel Future Farmers of America."

During the last five years, more than 10,000 acres in Wisconsin have been planted with trees through the Wisconsin Youth Free Tree Program. Norway pine, white pine, Jack pine, Norway spruce, white spruce, white cedar, white ash, and hard maple trees are supplied to Future Farmers free of charge by the Wisconsin Conservation Department. This year nearly 2.2 million trees will be planted by active chapters like Kiel and other youth organizations.

Choosing A Tractor Fuel

By Melvin Long

ALMOST ALL popular-size tractors are available in gasoline, diesel, and LP gas versions. Since fuel is the largest tractor operating expense, you may wish to consider a different type of fuel in the next tractor you purchase.

Here are the basic differences:

Gasoline. All factors considered, gasoline is the most convenient. Gasoline tractors are flexible in power output, are easily started, and do not require separate fuel-storage facilities. The same fuel can be used for trucks and automobiles. Storage losses will be highest with gasoline but can be reduced by good storage methods. An underground tank or a pressurized aboveground tank keeps losses to a low level.

However, gasoline does have the disadvantage of being subject to pilferage for use in automobiles.

Diesel. Diesel-engine tractors are usually more difficult to start in cold weather. For best reliability in extreme starting conditions, a separate gasoline starting engine is usually the best arrangement.

The alternative is a heavy-duty electrical starting system. For extreme cold situations, the electrical starting system must be supplemented by some sort of auxiliary heating device or by the use of some type of ether starting aid.

The exhaust fumes from a diesel engine are more disagreeable. Generally, maintenance costs average slightly higher with diesel than with gasoline tractors.

Although diesels have a higher compression ratio than gasoline engines, the power output for the same size engine is about equal.

LP Gas. The special pressurized storage tank needed for LP gas is more expensive than the non-pressure variety used for gasoline or diesel fuel. However, if LP gas is also used for home heating, cooking, water heating, or crop drying, part of the storage cost can be assessed against these uses.

Fuel transfer requires more time with LP gas. To take fuel to a tractor in the field, a special portable LP gas tank is required. This must be attached to the tractor by means of a special connection provided on the tractor. The tractor must then be driven to the regular storage tank for filling.

However, LP gas does have several advantages. Maintenance costs are usually less. There is no dilution of the crankcase oil by raw fuel. The piston rings are better lubricated, and valves and heads are less subject to carbon deposits. Some operators claim twice the valve life and three to four times the oil and filter life.

LP gas tractors have a higher compression ratio than gasoline tractors. This is possible since LP gas has the anti-knock characteristic of a very high octane fuel. However, LP gas weighs less per gallon than gasoline, and comparable size LP gas and gasoline engines have about the same power output.

Cost of tractor power. The important consideration is the total cost of tractor power. This can be divided into operating costs and overhead costs. Operating costs include fuel, lubricants, maintenance, and repairs. Overhead costs include depreciation, taxes, interest on investment, storage, and insurance.

In most cases, diesel or LP gas will lower your operating costs, but these same fuels will tend to increase your overhead costs. If you use your tractor enough hours per year, you can reduce the per-hour overhead costs to the point where they will be more than offset by the expected savings in the operating costs. Then these fuels can be justified. The exact number of hours' use per year at which this occurs varies for each farm.

By using the local cost of the various fuels and the cost of the different type tractors, you can determine, with the accompanying chart, the per-hour costs and yearly savings or extra expense if you switch fuels.

HOW TO FIGURE AND COMPARE THE COST OF TRACTORS

ITEMS TO CONSIDER	TRACTOR BEING CONSIDERED		
	GAS	DIESEL	LP GAS
1. Annual hours of use			
2. Horsepower rating			
3. Purchase price			
4. Salvage (10% of line 3)			
5. Depreciable (line 3-4			
6. Life (12 yrs. or 7500 hrs. maximum)			
7. Gallons fuel per hour			
8. Estimated fuel price per gal. less federal and state tax			
9. Fuel cost per hr. (line 7 times line 8)			
10. Depreciation per year (line 5 ÷ line 6 in yrs.)			
11. Repair (lifetime average of 10% of new cost)			
12. Interest (6% of average invest. or 2.5% of new cost)			
13. Taxes (0.45% of average invest. or 0.175% of new cost)			
14. Insurance (0.65% of average invest. or 0.325% of new cost)			
15. Annual fixed cost (add line 10 thru 14)			
16. Oil - ¼ gal. per 10 hrs.			
17. Grease - ¼ lb. per 10 hrs.			
18. Fuel (line 1 times line 9)			
19. Total annual cost Cost per hour (line 19 ÷ line 1)			

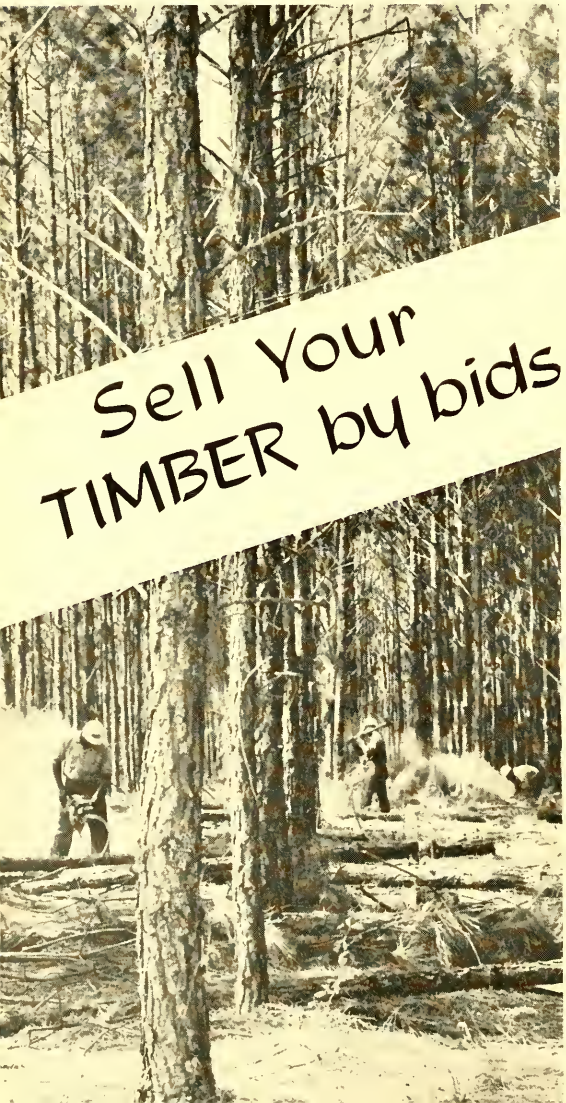
By Bruce Plum

How to make money on your woodlot.

AMERICA'S hardwood forests are primarily divided into small woodlots. These small woodlots are owned by farmers whose main income comes from crops other than wood products. Not many woodland owners look at their timber as an investment. On a per-acre basis, woodland income compares poorly to cropland income; however, on the basis of interest on investment, properly managed and marketed timber makes a good showing.

When a timber buyer makes an offer for a farmer's standing timber, the farmer is likely to make a deal after a little haggling. Often the logger will offer about one-half to two-thirds the amount the farmer will eventually settle for. The price the farmer settles for is sometimes only half of what he could get for the timber if he took bids.

By making the logger raise his price, the farmer feels he is getting more for something that wasn't worth too much in the first place. This attitude is costing the landowners money. A number of factors cause this attitude. One is the lack of timber price information. The owner often sells his timber by guess when the opportunity presents itself. Another important factor is the lack of information on marketing timber. Every farmer is familiar with where and how to market his milk, wheat, or hogs. He is familiar with the terms, grades, prices, and market places. It is a rare individual, however, who knows as much about marketing timber.



Consult a Forester

High-quality white oak, red oak, walnut, soft maple, and other species are in demand, so a farmer should not treat a timber sale lightly. When a $300 cow gets sick, you do not hesitate to call a veterinarian to protect your investment. When a timber sale of anywhere from $300 to $3,000 or more is on the line, a consulting forester can help protect your timber investment. If a woodlot is to be managed under a sustained yield program, it will be necessary to have a forester plan a management program to attain maximum yield. He will also select the trees for each harvest.

It is possible for a landowner to take care of the sale details himself if a forester is not available. Before one attempts to sell anything, he should have a clear idea of what is being offered. In the case of timber it is well to mark each tree to be sold. A paint mark should be placed on the tree about five feet above the ground. Another mark should be placed on the stump as a check to see that only marked trees have been cut. At the time of marking, the tree should be measured for board foot volume.

Next, invitations should be sent to local loggers interested in the species offered for sale. The invitations should give an indication of the number of trees of each species for sale, range in diameter, and approximate volume in the various species. A date should be given when bids will be opened. Anyone interested will look the timber over within three or four weeks after the announcement.

Methods of Pay

The successful bidder should be required to pay for the marked trees prior to logging. This should be announced on the invitation to bid. Any other method of sale can result in misunderstandings or maybe loss of the trees without compensation. If the buyer does not have enough money to pay for the timber on a small woodlot in advance, he probably won't have the money later.

Other methods of paying leave the farmer at a disadvantage. Methods to beware of include paying by the load, paying when the logger gets paid at the mill, and using the logger's scale. If you don't know how to scale logs, do not let the buyer scale them. Beware of mill scales because more than one logger has hauled logs from one woodlot to different mills and then presented the scale tally from only one of the mills. Sell by lump sum; it saves a lot of headaches.

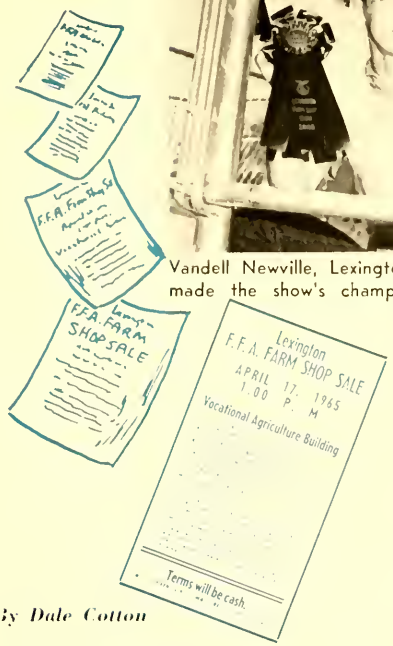
The Contract

A major pitfall is the verbal contract. If the agreement is in writing, it can save a lot of misunderstanding. The main points to consider in a contract are as follows: Make the logger liable for damage to fences and property that might occur during logging. The logger should agree to cut only marked trees. A preset fine should be imposed for cutting unmarked trees. To keep the logger from coming back for an indefinite period to claim trees he has purchased, include a closing date in the contract. On most small sales one year is usually sufficient to complete logging operations.

By following these few rules, you can make a profit.

Vandell Newville, Lexington Chapter, made the show's champion exhibit.

FFA Advisor Jim Hunter originated the farm shop show. He checks each item and starts the bidding at "cost."



Show & Sell

This farm shop show has the excitement of a livestock show including an auction.

By Dale Cotton

A FARM SHOP has long occupied an important place in the total vocational agriculture program at Lexington, Oklahoma. Many top-notch metalworkers and welders have come from the school, and some have won regional awards from the National Organization.

In order to gain recognition for the boys who have developed skills in this area, Jim Hunter, vocational agriculture instructor, originated a farm shop show.

Hunter describes it as being a lot like a livestock show with the projects which vo-ag students have constructed being rated by a competent judge. Projects, consisting of such items as gates, pickup stock racks, head gates, picnic tables, etc., are arranged in rows with each year's welding projects grouped together.

A judge checks the measurements carefully, inspecting for squareness of corners, neatness and strength of the welds, and economical use of material while attaining strength. Finally he places awards of first, second, and third, etc., on the equipment. The first place item from each group is considered for the over-all grand champion ribbon.

Premiums are given on each item. A Lexington citizen, Emmit Graham, donates $100 which is used for ribbons and cash premiums. Every FFA'er who enters an item in the show receives something for his efforts. Many members sell their projects or take them to the home farm.

Activities are far from over when the judging is completed, however. All projects in the show are auctioned, if the owner wishes. This year an auctioneer donated his time, and advertising brought an interested group of buyers.

Instructor Hunter keeps records and knows the exact building cost of each item, and that is where the bidding is started. The cost of the article is paid to the chapter, and the rest belongs to the builder of the project.

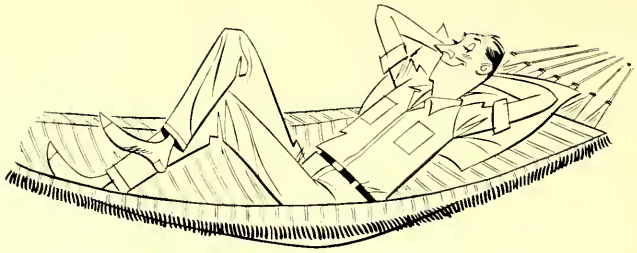
Feeders, gates, loading chutes, and head gates are needed by cattlemen in the community and usually find a ready buyer. All equipment is painted and ready for use when offered for sale.

This is the second year of the farm shop show, and it has proven successful. FFA members who enter the show and sell their equipment realize a respectable profit for their work. The more elaborate items offer a better chance for making money, but even a simple item may clear members as much as a feeding barrow, according to Hunter.

Plans are to continue the show and sale. Lexington FFA members and Advisor Hunter are enthusiastic about having an even larger and more successful event in the future.

Prospective buyers gathered early to look over the equipment. Advertising in local and area papers drew a sizable crowd to the Lexington FFA shop auction.

YOUNG FARMERS and HEAT...or how to play it COOL



By
Donald Robinson, M.D.

YOU WILL probably be surprised to know that more people suffer heat exhaustion and stroke in the United States than in the tropics. Acclimatization, a remarkable power the body has, makes the difference.

Heat represents a by-product. When you move muscles or think, your body takes the food you have eaten and converts it into energy. Part of this energy is heat. Also, some of the heat you produce keeps your body constantly warm.

When winter comes, you have to preserve heat to keep warm. In summer, it is quite the opposite. You must do things to keep cool.

Anyone sitting, working, or even sleeping constantly exchanges heat with his surroundings. If the place is cooler, he loses heat; if it is warmer, he gains it.

Three major ways of heat exchange are radiation, convection, and evaporation. Radiation is heat given off from a hot object, like an electric stove, by movements of molecules. Convection means that fluid currents (usually air) move. For example, hot air, being less dense than cold air, rises. Through evaporation you lose 500 calories for each quart of perspiration.

We use the "calorie" to measure heat. The farmer in the summer receives 1½ calories per square inch per minute from the sun. In the winter in temperate zones, he receives only one-half calorie.

If you think about the fact that in the tropics it is always "summer," it is more startling to find no heat stroke or injury there.

Heat may injure you in several ways: You may sunburn severely, get prickly heat, or injure wet skin by touching insecticides or plants that wouldn't harm dry skin.

To protect yourself from these, wear loose, light clothing and a hat. If you contaminate your clothing with chemicals, change the clothing. Be sure to shower after a day's work, and begin the day with clean dry clothes.

The two most serious injuries are heat exhaustion and heat stroke.

In exhaustion the patient is pale, sweating, and faint. All he needs to do is sit in the shade and take some salt (a teaspoonful dissolved in a glass of water). He should feel all right in a short time.

Usually farmers salt food more heavily in summer, and they do not need to take salt tablets.

When one has heat stroke, he is unconscious, hot, red, and dry. Cool him quickly with ice, cold water, or even your own sweat if you have nothing else, and call a doctor.

Your body has defenses, but you must help your body keep cool.

When you wear a hat and loose clothing, you shield away radiation. The body's first line of defense is the blood vessels. In the skin they dilate and speed heat escape from your skin.

The evaporation of water from your skin cools. Light, loose clothing not only shields you from radiation, but also helps perspiration evaporate evenly. Any breeze should help cool unless it is very hot, from blowing over a tractor motor, for instance.

A smart farmer shields himself from the heat of motors, puts umbrellas on his tractors, and does everything possible to cut down heat.

The third, and in many ways the most important, factor protecting a young farmer from heat stroke is acclimatization.

While dilatation of the skin capillaries and sweating take place at once when a farmer begins to work in the heat, acclimatization takes several weeks to occur.

The young men who were kept in bed 30 days as part of the test for weightlessness and the effect of immobility for our space program were acclimatizing. Although no one, to my knowledge, calls it "acclimatization," it is the same sort of thing. Astronauts' blood pressure, breathing, and blood chemistry change.

After a few weeks in a hot climate, the farmer's blood thins and his heart rate and metabolism change. He sweats less but is cooled more by his sweat. He breathes differently.

The trick is to let yourself become acclimatized. To do this, do the heavy work in the cool of the morning or evening until your body gets "used to" the heat at the beginning of summer. Grease machinery or figure schedules or study during the heat of the day.

One hour of hard work the first hot day—98 degrees—will do your body more harm than ten hours of work in a 98-degree temperature after the body has become acclimatized. It takes two to three weeks to acclimatize to heat.

Purdue University discovered that anyone 20 percent or more overweight was ten times more susceptible to heat damage than one who was normal weight. Fat people do not acclimatize as well.

Rules for Summer

1. Keep your weight normal.
2. Take the first two weeks of summer for your body to acclimatize.
3. Protect yourself from heat radiation (sun, motors, etc.) and wear loose, protective clothing.
4. Keep your skin as clean as possible. At least start the day clean and dry, and shower at the end of day.
5. Have a tetanus immunization every six years to protect against tetanus from summer wounds.
6. During heat above 98 degrees Fahrenheit, take five-minute breaks in shade every hour.
7. Drink plenty of water, and salt your food well.

Promoting Rural Traffic Safety

Here's how one FFA association got behind the SMV rural safety effort by developing a purchasing co-op to bolster chapter action.

By
C. A. Cromer

ON APRIL 5, 1965, the Nebraska Legislature passed a law making the SMV (slow-moving vehicle) emblem official throughout the state and requiring its use on all state roads. Even though the law does not go into effect until January 1 of next year, Nebraska FFA chapters decided that now was the time for action. A statewide resolution was passed at the recent state FFA convention whereby all chapters would carry on at least one traffic safety activity during the year. The resolution read in part:

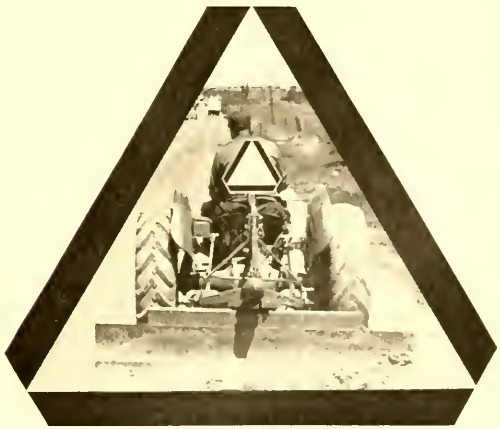
"WHEREAS: Activities such as eradication of blind rural corners, marking narrow rural bridges, installing safety flags on farm tractors, reflectorizing farm machinery, promoting slow-moving vehicle emblems, and conducting community safety awards programs can effectively be carried out by Nebraska FFA chapters.

"THEREFORE: The Executive Committee of the Nebraska Association for Future Farmers of America moves that each active FFA chapter include in their program of work for the coming year at least one activity which will contribute to the improvement of the rural traffic safety situation in their local communities."

The FFA set about organizing a statewide SMV purchasing cooperative so local chapters could receive volume discounts that would have been impossible to obtain had the chapters bargained individually. Even though Nebraska had a manufacturer of the SMV emblem within the state, the price on the emblem was expensive to local chapters who were interested in purchasing in two to three dozen quantities. Since there were a lot of chapters with a similar need, it was found that by organizing they could achieve an advantage.

It is estimated that 3,000 to 5,000 of the SMV emblems will be distributed by Nebraska FFA chapters during the coming year. This is only a small percentage of the state's potential, but an all-important start. Rollie Schnieder, Nebraska farm safety specialist, estimates that an average farmer in Nebraska needs at least three emblems with three to five additional brackets for other machinery. The potential is enormous. As the emblem receives a wider distribution, its accident-saving value will increase. The initial outlay is nominal when compared to an accident involving property damage and possible loss of life.

Developed at Ohio State University, this SMV emblem is being made available to Nebraska members at co-op prices.



The emblem has proven to be highly visible to approaching motorists at distances allowing ample time to slow down.

A NEW LOOK AT RENTING

By
Len Richardson

BEGINNING farmers say getting land is one of the problems of making a start in farming. But you don't have to own it. Half of all the farmers in a Michigan State University study started farming by renting land. More important, they were in control of more land when they began than the nonrenters in the study.

Beginning farmers must compete with established operators for land. Such competition adds to the uncertainties of tenant farming. And it has also added to the price paid for farmland, thus reducing the return per dollar invested in farmland.

A number of economists have suggested the goal of owning a debt-free farm may not be a down-to-earth goal for many young farmers in the years ahead.

Plainly, a Future Farmer should look into different ways of making a start and select the one that best fits his situation. However, you should be aware of and adjust your thinking according to trends in agriculture.

Four trends, visible today, are likely to go on for some time and will guide the terms under which you enter farming. These are (1) a trend to larger farms, (2) an increase in the capital required of one man in agriculture, (3) further specialization in agricultural production, and (4) increasingly complex decisions required of commercial farmers.

These trends are related and may have effects on each other. For example, factory-like production could lead to separation of livestock production from feed production. Highly specialized livestock enterprises might be conducted on small acreages, while specialization in feed production would lead to larger land units. Thus the two trends may, at the same time, cause the development of both larger and smaller farms. In each case, however, capital used per man is likely to go higher. The result has been the growth of another kind of renting called "capital leasing," which is the renting or leasing of machinery.

To understand how "capital leasing" works, you must first understand the difference between a capital lease and an operating lease.

A typical example of the operating lease is the rental of a tractor with front-end shovel for two days at $6.00 an hour. The item is almost always easily removable when the lease closes. Example of the capital lease might be the leasing of a $10,000 egg grader for $2,400 a year for five years, or a $14,000 silo for six years at $225 a month. It may be difficult or impossible to remove the property at the end of the period. Provisions in the lease would determine ownership or renewal rights.

The capital lease avoids the high initial capital outlay and, frequently, the high costs in purchasing such items. This may be an attractive choice to complete ownership by beginning farmers unable or unwilling to use large amounts of credit. At least one company in the Midwest is developing a capital lease program on small ticket items. Already developed is a rental program for hog farrowing crates that has a price tag of only $63.00 plus tax. The hog raiser's annual lease payment on this unit is $12.78. The company expects to expand its operation to include other low-cost equipment.

Advantages of this type of arrangement are:

TAX BREAK—In most cases lease rental payments are tax deductible as operating expenses. However, be careful on this point. Professor Robert S. Smith of New York State College of Agriculture warns, "There may be a tax advantage, but the possible gains have been exaggerated."

FLEXIBILITY—You can plan your program to fit the market.

CREDIT RATING—In practice, banks do not consider a lease to weigh as heavily against credit lines as they do a conditional sales contract or loan. You can add new facilities and still keep your bank lines open.

Since these trends are under way, take a close look at renting or capital leasing. Several principles can be applied to help you arrive at the best course of action.

1. Labor, usually your most abundant asset, is most productive when used with enough capital in the form of machinery, equipment, and fertilizer on a scale large enough to provide full employment.

2. Spreading the fixed costs (interest and depreciation) on machinery and equipment over more acres or units of production reduces these costs per unit.

3. The returns from a limited amount of capital will be greatest when the capital is invested so that each dollar added (both owned and borrowed) is put where it will earn the most. Dollars tied up in the purchase of land may return less than the same dollars invested in machinery, feed, livestock, fertilizer, and other items.

4. Uncertainties of renting can be removed or reduced by written leases, properly drawn.

Making a start in farming is not easy, but if you are willing to accept the necessary risks and keep an eye on the trends, you can reach your goal of establishment in farming. Remember that entering into farming may depend more on demonstration of personal ability than on the possession of any given amounts of capital.

This is only one of several champion and reserve grand champion awards that Rande has won showing stock.

STAR DAIRY FARMER

Pride in your dairy may come from the show ring, but your profits start here. He earns a $218 net income per cow.

Rande Kummer, the cream of FFA dairymen, started with one beef calf.

"MY DREAM IS to some day have an operation comparable to Carnation Farms," says Rande Kummer, the 1964 national winner for outstanding achievement in dairy farming.

Rande lives on a 338-acre beef and dairy ranch located on Bear Creek, 23 miles north of Spokane, Washington. He is a graduate of Deer Park High School, and his instructor of vocational agriculture was Gilbert A. Long.

Kummer's interest in farming is traceable to a pioneer farm family. "My Great Grandfather Benner was one of the early settlers of Whitman County, having been a captain of a covered wagon band that crossed the Oregon Trail from Nebraska. My father's family came here from Germany. They settled in Douglas County and still have a large wheat farm there. As you can see, I have been exposed to farm life and farming enterprises all my life," he explained.

Rande began his farming activities at the age of 12 by purchasing a beef calf. Two years later, in exchange for farm work, Rande's dad gave him a Holstein cow that caused him to shift his interest from beef to dairy.

Rande explained his "change of heart" in favor of dairy production. "As a freshman I became aware of the opportunities in vocational agriculture, and encouraged by the achievements of upper classmen, I decided to take dairying as my supervised farming program. About this time my parents were seriously considering selling their dairy herd and going into beef."

Rande talked it over with his dad, and they were able to reach an agreement whereby he purchased the 27 dairy animals for $5,175. His dad allowed him $1,395 for his beef animals. Now a full-fledged dairyman, Rande looked for ways to expand.

He used "cash on hand" and a matured endowment policy to purchase six additional bred Holstein heifers from the St. Michael's Scholastic Seminary. An agreement was worked out with his father for hay and use of the buildings. It provided that he pay $10.00 per ton for hay and $35.00 a month for rental of barns and equipment. An additional charge of $15.00 is paid for use of the manure spreader. All labor performed by his father and other members of the family is paid for at the rates of $1.00 an hour, and he furnishes all the family's milk.

Rande admits it's a good deal. "The charges are quite nominal and were allowed by my folks with the understanding that I would assist with all other farming enterprises on the ranch."

As his farming program developed, Rande was learning new skills and winning awards. He started by winning the local Star Green Hand award. Later he won his chapter's Star Farmer foundation award and a host of county and state fair ribbons for dairy showmanship. The latter included senior champion and reserve grand champion ribbons on his cattle and similar honors for grooming and showing. He was elected chapter secretary his senior year and at year's end was awarded a registered Holstein heifer by the Spokane County Holstein Club as the outstanding FFA member.

His efficiency achievement that speaks the loudest is a net income per cow of $218. He achieves this with an annual production average of 12,000 pounds of milk and 472 pounds of fat. Innovations include using proven sires for which he developed a cow coding system and building his own liquid manure handling system.

At the time of his award he had 47 animals, eight of which are registered. Looking to the future, Rande says, "Eventually I hope to have all registered cattle with an average production of not less than 14,000 pounds of milk and 500 pounds of fat. This is the goal I have set for myself."

SAFETY TIPS FROM B.F.GOODRICH PAY A BONUS IN INCREASED TIRE LIFE

Here's a chance to profit from the "know-how" of other farmers

All the tractor safety tips here are based on the accumulated experience of men who know and use tractors to earn their living. Spend a minute reviewing these tips. They may add years to your life . . . and your tires.

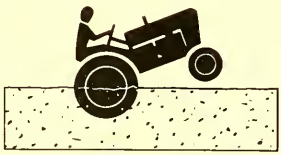
And while you're looking them over, notice how often safety and longer tire service go together. The man who operates a tractor safely does get a bonus of extra service from his tires. At B.F.Goodrich, we build extra quality into farm tires to withstand abuse. For the farmer who follows good machinery management practices, that extra quality pays off in increased tire life. Post this ad in your machine shed for others who use your equipment. *B.F.Goodrich Tire Company, Akron, Ohio 44318.*

SPEED—excessive speed is dangerous and causes more tractor upsets than any other factor. Slow down, especially when driving to and from work areas. Always keep the tractor in gear—never coast downhill.

MISUSE OF EQUIPMENT—don't use a tractor to herd cattle, run errands, or for horseplay.

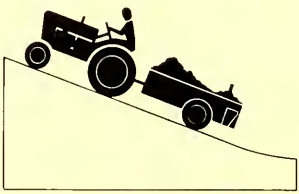
CROSSING SLOPES—if a slope is too steep, don't try to farm it. Any hole, bump or quick turn can mean an accident.

MUD—something will turn if power is applied. If the wheels stick, the chassis will revolve around and over axle. If you can't back out, get help.



HIDDEN OBSTACLES—big farm tires have lots of "bounce". Hidden logs, stumps or stones can throw you. Keep alert. Slow down for tall weeds or grass.

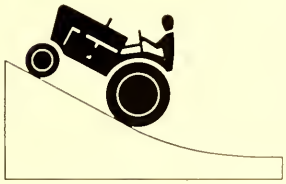
EVEN LOADS—if you pull heavy loads, add *front* end weights for balance and handle tractor with care.



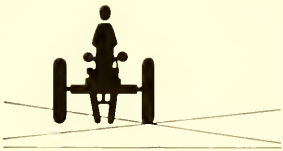
FREE...

Write now for your copy of this B.F.Goodrich 32-page illustrated brochure "What you should know about farm tires," a money-saving guide to farm tire purchasing, maintenance and use. Write: B.F.Goodrich Tire Co., Department 0043, 500 S. Main St., Akron, Ohio 44318.

GOING UP SLOPES—don't risk a backward upset. If you have to go up a really steep slope, go up backwards whenever possible and never attempt to pull heavy loads.

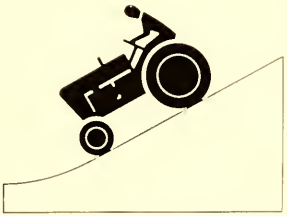


STOPS, STARTS, TURNS—don't do anything too fast or "jerky". Don't lock one brake to make a turn. When changing work areas, lock brake pedals together for simultaneous operation.



DITCHES—applying power to get out of a ditch can flip you backwards or sideways. Cross ditches where slope is most gradual.

GOING DOWNHILL—this puts extra weight on front wheels and increases the chance of an upset. Avoid heavy loads and keep tractor in gear.



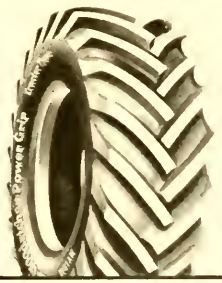
HITCHES—never attempt to pull a load with the drawbar removed. Hitching to axle or seat bracket is an invitation to go over backwards. Keep drawbar in lowest position for heavy loads, especially for manure spreaders and two wheel trailers.

FRONT LOADS—front end loaders save labor, but make it easy to tip a tricycle tractor. Be careful. Add rear wheel weight.

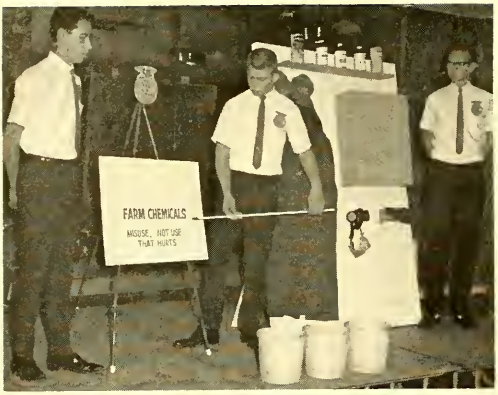
HIGHWAY TRAVEL—avoid heavily traveled roads whenever possible when moving farm vehicles. Use red warning flags in daytime and lights at night. Keep to the edge of the road.

POWER TAKEOFF—always disengage PTO before adjusting or unclogging power equipment. Do not remove belt while pulley is in motion. Use safety shielding. Be sure belts or other moving parts do not rub against tires. Ground equipment to avoid danger of static electricity.

BFG NYLON POWER GRIP—Long, trouble-free service is built into this famous BFG rear tractor tire. You get nylon cord protection, yet it costs less than most tires without nylon.



B.F.Goodrich
The Tough Breed of Tire

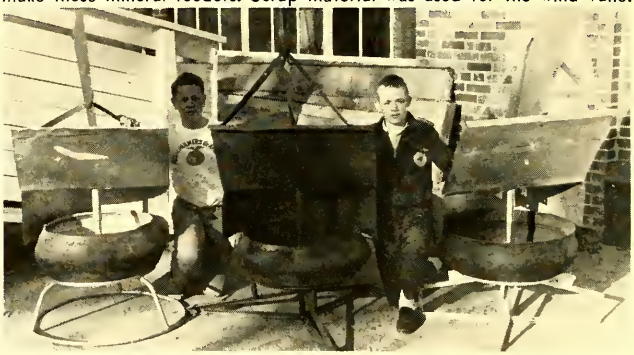


So impressive was Eaton, Colorado's, farm safety demonstration that the FFA'ers were asked to present the FFA demonstration at the National Safety Congress conclave.

"Modeling the latest above-knee style is Rex Bressler, FFA'er and senate page. And coming on now wearing a conservative gown is Advisor Harper!" Sights and sounds from the Bird City, Kansas, FFA banquet fashion show.

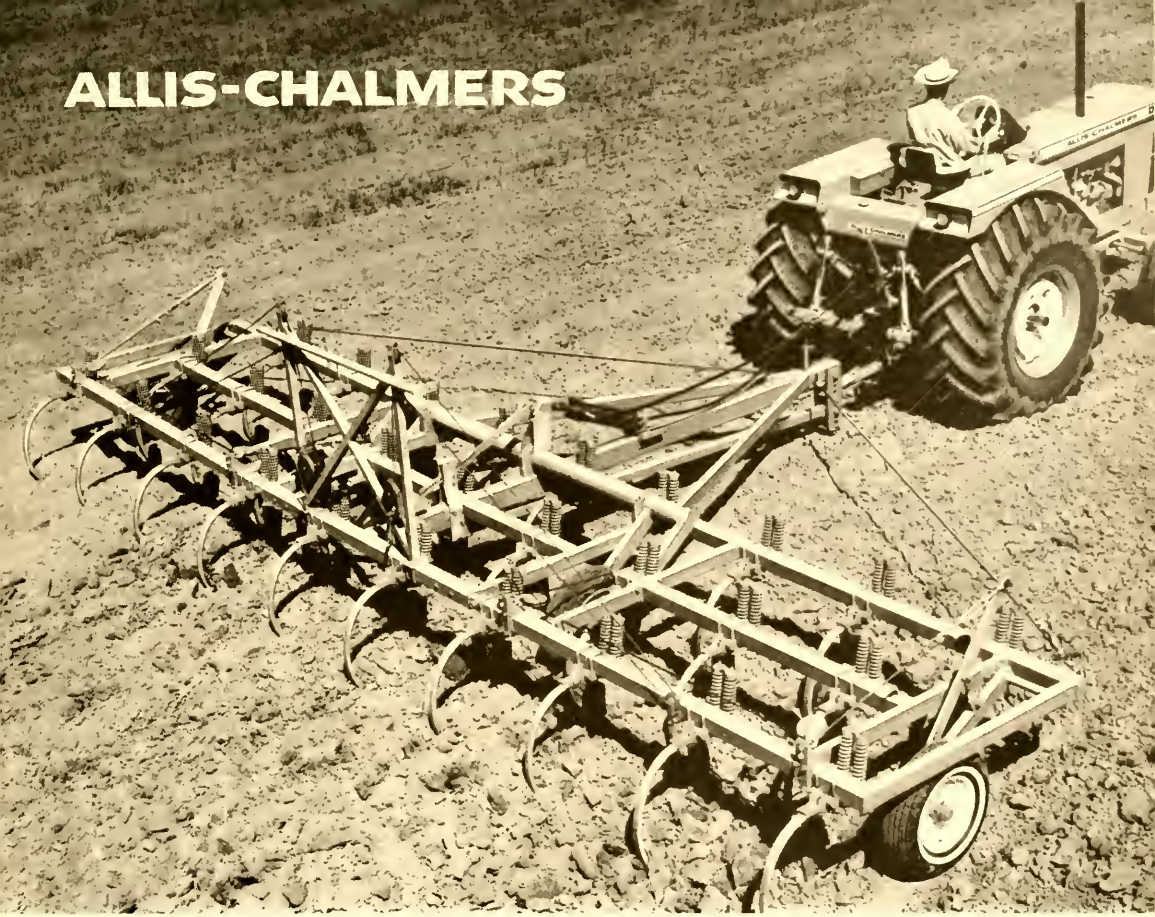
PHOTO Roundup

Curtis, Nebraska, FFA members utilized old inverted automobile tires to make these mineral feeders. Scrap material was used for the wind vane.



Teamwork and muscle were required to win this Big Bend, Florida, Forestry Field Day event. The Blountstown Chapter won first prize in the log sawing contest.

Secretary of Agriculture Freeman and Calvin Brints, Texas president, discuss FFA activities during the Secretary's tour of screwworm eradication plant.



Think big!

Allis-Chalmers does! Acreages are big and getting bigger. Wherever township-size fields sprawl to the horizon, you find Allis-Chalmers tractor power busy whittling them down to size. This big power is a *must* for profitability, now and for the foreseeable future. For the forward-looking farmer knows that he must take out costly man-hours.

Prime example of big thinking is the new Series II D-21 tractor, seen above working effortlessly with a big, wide Allis-Chalmers wing-type chisel plow. The big, acre-eating D-21 is now *turbo-charged* and develops 20% more horsepower. It'll chisel-plow 100 acres a day. Disc seedbeds at a rate of 150 to 180 acres a day. Plows 45 acres in the same time, one gear *faster* than before. And it does all this with remarkable fuel economy, and with true comfort for the operator. He rides on a super-deluxe seat, and fulltime power steering, feather-touch controls, let him accomplish more with less fatigue. See the D-21—and you see the future!

Shrink big acreages with an Allis-Chalmers D-21!

ALLIS-CHALMERS • THE TRACTOR PEOPLE • MILWAUKEE, WISCONSIN

What is a TEENAGER

In a world of "labels" you have been given a name you probably don't like. What does the term mean? What am I?

By Howard Carter

BETWEEN childhood and full adulthood, there's a period of several years when you often feel all your time is spent in getting ready for life rather than in life itself.

You are bombarded from every angle with planning for the future. You are constantly told you're too young for some things, and at the same time, you know you are too old for others. You are expected to think and act like an adult on some occasions, and you are treated like a child on other occasions.

So you say, "O.K., I'm not an adult and I'm not a child! What am I?"

"A teen-ager! Great! What does that mean?"

There are only six years separating a 13-year-old and a 19-year-old, but the differences between them are far greater than between 19 and 25, which are also only six years apart. Yet 13- and 19-year-olds are often lumped together with the term teen-ager.

"How about adolescent? Now that is a dan...dan..dandy description! Pray tell, what is an adolescent?"

Most definitions of adolescence refer to the period of growth between childhood and maturity—in other words, no longer a child, but not yet an adult, so we are right back where we started.

Well, not quite! We have established that terms are not entirely accurate and also suggested that young people might not especially like to apply these terms to themselves.

To answer the question "What am I," it may help if you know and understand the human growth stages these terms cover. The modern psychologist has broken down the stages of growth to show the entire range from birth to death (see chart).

You should clearly understand that one doesn't automatically pass from one period to another on a given birthday. One level of development gradually fades into the next. Often one stage of development is hardly established before early signs of the next stage begin to appear. Also, individuals may vary greatly.

Infancy	Birth to 2 years
Early childhood	2 to 6 years
Middle childhood	6 to 11 years (girls) 6 to 13 years (boys)
Preadolescence or late childhood	11 to 13 years (girls) 13 to 15 years (boys)
Early adolescence	13 to 15 years (girls) 15 to 17 years (boys)
Middle adolescence	15 to 18 years (girls) 17 to 19 years (boys)
Late adolescence	18 to 21 years (girls) 19 to 21 years (boys)
Early adulthood	21 to 35 years
Middle adulthood	35 to 50 years
Late adulthood	50 to 65 years
Early senescence	65 to 75 years
Senescence	75 years, onward

For the adolescent years, the age limit differs for boys and girls because on the average, girls mature about two years earlier than boys.

Each of the periods of growth has its own special problems which a person must adjust to if he is to enter the next stage without handicap.

It is interesting to note that not until this present century have young people had the time or the need for a prolonged period of education and gradual maturing of their interests and attitudes. In earlier times, civilizations didn't have the machines that now make the labor of young people unnecessary. Machines and advancing technology took young children out of the mines and factories and fields. A complex society has developed that requires more education of the young to run the machines and manage the civilization when they are older.

Also, in earlier times the need was not so great for gradual maturing. The change from childhood to adulthood in primitive groups was usually marked with some kind of puberty rites. These ceremonies gave public announcement that from then on the boy was to be ranked as a man and the girl as a woman. It was that quick and simple.

Both were ready for marriage, which was mainly an arrangement between families rather than individuals. Such bonds did not require judgment or maturity in either party. Marriage in the modern world, however, requires a great deal of judgment and maturity in both parties.

What does all this mean to you? It simply means the years between childhood and adulthood are both to live and to prepare for living. It is plain arithmetic! There are only six or seven years of adolescence to prepare for the 60 or 70 years that follow.

So, if you sometimes wonder why parents and teachers seem to make such a fuss over the period you are in now, just remember it could be because it's the last stage before adulthood. This makes it the last opportunity for them to help you prepare yourself for adult responsibilities.

"Cousin Ed, is water pump one word, or do you have to put a hydrant in the middle?"

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Some men drift. Others plan. And it's a sure thing the planners come out ahead. Is it hard to plan? No, it's mainly a matter of finding out all there is to know about the different choices you have.

For instance, do you know the Army has three different training programs—the Graduate Specialist Program...the Vocational Training Program...and the Combat Arms Program?

What does each offer you? The new booklet, *The Secret of Getting Ahead,* will tell you that. And more. Send for it by filling out the coupon on this page. Then, after you've read it, if you have any more questions, your local Army recruiter will answer them for you. If you want to start planning immediately, see your recruiter now. He'll give you the booklet and answer your questions on the spot. In fact, he'll tell you all about the exciting life waiting for you in today's action **Army**

Across the U. S. A., Future Farmers Are "Learning to Do; Doing To Learn: Earning To Live: and Living To Serve."

THE FFA IN

A good fire and a comfortable chair greet guests at the new chapter house.

GEORGIA—If you visit the Thomson FFA Chapter, you will no doubt be entertained first class in the new chapter club house.

To begin with, the place picked to build the house was a wilderness. But with the help of interested citizens and their bulldozers, the land was cleared and graded, and work on the house was begun.

The members did 90 percent of the work themselves, hiring labor only to lay concrete blocks. Total cost was about $6,000. Of this, $5,000 was donated by McDuffie County citizens. It has a recreation room, kitchen, two bedrooms, and two baths.

Ideal for chapter meetings, socials, and leadership training clinics, the house is located on the back waters of the Clark Hill Dam. It will be easy to find Thomson FFA members this summer. (*Eleanor Gilmer, Editor, Georgia Future Farmer*)

Harold Yoakum, right, advises members on irrigating their FFA chapter farm.

How many errors in proper use of the FFA jacket can you find in this photo?

WASHINGTON—What's wrong with the way Larry Wainwright, Riverside Chapter, is wearing the official FFA jacket? How many errors in proper use of the jacket can you find?

Actually, Larry is not a poor FFA dresser, and Evan Green, national student secretary, is not writing him a ticket for improper dress. The event was staged during the Washington State FFA Convention to emphasize the proper use of the FFA jacket. Larry obligingly posed as unkempt member.

Oh . . . you should have found five errors. Count them: collar turned up, jacket not zipped, cuffs not buttoned, school letter on jacket, and more than three medals—all improper uses of the FFA jacket.

Here's an idea. Look around and see how many of your fellow members are making some of these same mistakes.

OKLAHOMA—Guymon Future Farmers have been producing crops and conducting experiments on their irrigated 41-acre farm, located north of this panhandle community, for just over a year. The land is owned by the city of Guymon. Advisor Harold Yoakum confronted the city council, requesting that chapter members be permitted to farm the land around the city's sewage plant. Permission was granted, and the board of education financed a needed irrigation well.

The city asks only one thing of the chapter: The members must remove dry sludge from the city's sewage plant. However, chapter members consider the sludge free fertilizer for their farm. This year's wheat crop produced an excellent yield, and several cuttings were taken from the alfalfa. (*Paul W. Newlin, Assistant Executive Secretary*)

Thomas Crowel, center, accepts award for his feedlot of the future design.

INDIANA—Thomas Crowel, a senior at Penn High School, Mishawaka, has been named national winner in the fourth annual Vocational Agriculture Feedlot Planning Contest. Crowel was cited by A. O. Smith, Inc., sponsors of the contest.

Contestants submitted a sketch of their present farm feeding arrangement and then diagramed the same feedlot changed to fit their future needs for more efficient feed handling, livestock management, and enterprise expansion.

Crowel plans to join his father and brother in partnership on their 600-acre farm. The plans called for an increase in their dairy herd from its 36-cow size up to 100 cows. One metal, rigid-frame building will enclose the feedlot, loafing area, and holding pen. They plan to use free-stall housing and eventually install a herringbone milk parlor.

ACTION

Bergen County FFA'ers are using their landscaping skill to beautify a local shopping center as a public service.

Bowen FFA members exert "an ounce of prevention" by placing stop signs.

ILLINOIS—Blind intersections on county roads have a "new face" as the result of a Bowen FFA plan to decrease accidents.

Township road commissioners working with the chapter Safety Committee placed "Stop," "Stop Ahead," and "Slippery When Wet" signs at trouble spots along county arteries. The signs are posted on 4- by 4-inch creosote poles, placed at a depth of three feet.

According to Advisor Robert L. Williamson, "Townships were happy to furnish materials if the FFA ordered and installed the signs."

The Bowen Safety Committee is now planning a school assembly on highway safety to be conducted by the State Highway Patrol. *(Robert Williamson, Advisor)*

NEW JERSEY—The Bergen County FFA Chapter participated in the Bergen Mall's Spring Travel Show in Maywood, New Jersey, recently and were guests at a special luncheon in their honor.

Why this special recognition from a shopping center? The FFA members landscaped five patios similar to the one in back of where they are standing (photograph). The chapter also constructed about 500 feet of landscape fence. Each Future Farmer volunteered about 20 hours of work to complete this community service project. Pictured in the front row, from left, are vice-principal of Bergen County High School, Norman Parris, and FFA advisor, Everett Conklin. *(Pete DeVito, President)*

CALIFORNIA—In the February-March "FFA in Action," the Hanford Chapter asked if any chapter could top their record of winning state judging contests. We have an answer. Hanford has topped its own record.

In the state finals judging contest at Cal Poly, May 8, Hanford had four winning teams. Previously they had as many as three winning teams and have had one or more champion teams each of the past seven years.

The four winning teams this year were milk, meats, agricultural mechanics, and farm power. Team members were: Milk—James Mello, John Ferdolage, James Johnson, and Daniel Simas; Meats—Charles Feaver, Greg Ward, Wayne Edwards, and Glen Dooley; Agricultural Mechanics—Don Wilkenson, Greg Dias, John Prys, and Larry Mello; Farm Power—Ken Yeeny, Alan Yeeny, Rick Logan, and Lonnie Ransdell. *(John Ferdolage, Reporter)*

IOWA—United States Senator Jack Miller was the featured speaker at the Midwest Premiere program for the new FFA film, "The Challenge . . . Leadership, The Answer . . . Future Farmers of America." More than 500 attended the April 12 event sponsored by the Audubon Chapter.

Miller called the FFA "the best farm youth organization in America" but cautioned that "The future of agriculture and America is your responsibility." His address was followed by the showing of the new movie. Members of the Audubon Chapter are pictured in the film. The event was open to the public.

A "by invitation only" banquet preceded the premiere program. Guests at the banquet included: 25 school superintendents, 40 vo-ag instructors, 30 classroom teachers, 100 FFA parents, 25 school board members, 30 members of the vo-ag and FFA advisory committees, and 150 local businessmen. Senator Miller was introduced at the banquet by Audubon's mayor, Joe Sklenar. *(James Hamilton, Advisor)*

U. S. Senator Jack Miller, left, was the featured speaker at the Midwest Premiere of the new FFA leadership movie.

Gary Kuhlmann rounds up some of his more than 30 registered Herefords.

FOUNDATION FOR FARMING

Kuhlmanns began on purebred cattle-FFA base.

By Roy Alleman

"IF YOU'RE thinking of a herd for the future, you want the foundation to be right," says Lawrence Kuhlmann, 1965 winner of the Nebraska livestock farming award and newly elected state FFA president.

A visit with the Kuhlmann families of North Platte, Nebraska, can tell you quite a bit about a proper foundation—cattle or young farmers. The young farmers are Lawrence, Ernie, and Gary. Ernie and Lawrence are brothers, sons of Orvil E. Kuhlmann, a well-known breeder of Polled Herefords. Gary is a cousin and son of Erwin Kuhlmann, also a noted breeder of Polled Herefords, who lives five miles farther up the Platte River.

The foundation for growth has been purebred cattle and the FFA. Lawrence holds the State Farmer Degree, in addition to the honors already mentioned, and Gary and Ernie both hold the American Farmer Degree.

Lawrence Kuhlmann, left, helps Cousin Gary ready an animal for a livestock show. Lawrence is state president.

The cattle foundation (Advanced Domino Line) stems from the herd begun by their grandfather, Henry Kuhlmann, Jr., more than 30 years ago. How far they have come in three generations of raising purebred cattle was revealed March 23 by the American Hereford Association. The announcement read in part: "A new chapter in the history of the Association's Register of Merit has been written by the cow Hazel Domino 52. Bred by Orvil E. Kuhlmann and Sons, who also are the principal exhibitors of her produce, she now heads the female side of the active Register of Merit with 173 points." In gaining this position, she passed the venerable cow, Izatone, to become the all-time high point winner in the 37-year history of the Register of Merit program.

This record of achievement requires a lot of work. Ernie, Lawrence, and their father groom 30 to 40 head daily. On the 1963-64 show circuit, they had a winner in ten out of 14 shows.

Cousin Gary and his father have cows of Advanced Numode breeding, but they do not show their animals nearly as much. Most of their cattle are sold at annual production sales. "About half go for herd bulls and half into commercial herds," Gary explained.

While it is easy to "talk cattle" with the Kuhlmanns, we wanted to find out how these young farmers became a part of the family farm.

"You've got to grow into it," says Ernie, the oldest of the three and the only one married. "It is difficult to make a success of this business if you have to borrow too much money. Before I went into a partnership with my father and brother-in-law, George Haussler, I had built up a vo-ag farming program of 15 cows, seven or eight heifers, and some calves for a total of about 30 head."

We asked the same questions of Gary since he followed Ernie at North Platte High School.

"My beef program was started on the profits made from fattening beef when I was in grade school. A heifer I purchased from my father was the basis of my farming program when I joined the FFA. I expanded my program, keeping the top quality heifers for my breeding herd and selling the bulls." He now has 30 head.

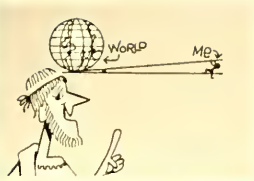
Gary didn't take a back seat in the show ring either. "From these cattle I picked a heifer that was FFA reserve champion of the 1963 Nebraska State Fair, and I had the reserve champion junior herd of the FFA show."

Lawrence has a herd of five cows, four heifer calves, two bull calves, and three steer calves—all from the first cow he bought from his father. His success in the show ring includes champion female at the Fort Worth, Texas, Show and reserve champion at the Arizona National Livestock Show.

Just as the right foundation has paid dividends in the show ring, a foundation of leadership in FFA has led Lawrence to ever increasing responsibility. He was president of his FFA chapter, an FFA Gold Medal showman, Star Chapter Farmer, president of the North Platte Student Council, and a member of the Honor Society, before being elected state president.

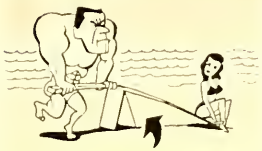
Building on this foundation—purebred cattle and FFA experience—the younger Kuhlmanns are sure to keep up the winning ways of their fathers.

What is torque?



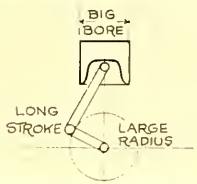
Torque is vital to the work power your tractor can develop. It stems from a simple principle of leverage discovered thousands of years ago . . . the proper use of a fulcrum and a lever to step up power. Archimedes once said, "Give me a lever long enough and a fulcrum strong enough and I'll move the world." Today, leverage has a new twist.

It is useful leverage



Brute horsepower doesn't necessarily mean high work output. In a tractor engine, rotating leverage is torque. If its torque is poor, horsepower can be wasted just as surely as muscle power can be wasted if the fulcrum is in the wrong place. That's why Case engineers have concentrated on building engines with maximum leverage—*high torque.*

Why Case engine design produces high torque



Case deliberately designs its engines to exert maximum leverage through big pistons, large radius crankshafts and long connecting rods ...all operating together at relatively low engine speeds. Results: Higher torque at the engine, less power loss through gear reduction, less engine wear, *more work-power at the drawbar.*

Why high torque makes you more money

In the field, Case high torque shows up in a reserve of pull-power that gives you the muscle to whip bigger jobs faster. You can handle bigger implements, cover more acres with less stopping and down-shifting, get more work accomplished at less cost day after day. And less engine wear means lower maintenance costs.

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At left, the Case 930. Also available: 4-5 p.o.m. 730 and 5-p.o.m. 830.

CASE

CASE

Bass thrashes wildly as it is led in. Pond-raised bass are real scrappers.

Author holds up a pair of trophy bass he skillfully beguiled from farm pond.

Small Ponds Produce BIG FISH

By
Russell Tinsley

THE SMALL half-moon depression in the farm pond bank was clogged with debris. Standing well back from water's edge, I cast parallel to the debris and retrieved my lure slowly near bottom. After a half dozen turns of the reel handle, something walloped the bait—hard!

This was a big fish, all right. I put tension against the reel arbor with my thumb and let it grudgingly have line. The fish made one strong run, then concluded with a lumbering, end-swapping jump. The fish looked huge!

I took my time and allowed the fish to fight the resistance of rod and reel. Soon I had things going my way. This one weighed a shade under six pounds.

The dramatic turn of events didn't surprise me. The spot looked "bassy." It had all the earmarks of a big-bass lair. This was farm pond fishing at its best.

As our population grows and puts more pressure on public fishing waters, the farm pond will play a more significant role. Right now there are some 2.5 million farm ponds in the United States encompassing more than three million acres of water. A typical pond is capable of producing from 50 to 100 pounds of fish per acre under natural conditions and 175 pounds when properly managed.

But having fish in a pond and catching them are two different things. It takes skill and know-how to outwit big bass in a small pond.

Every pond has a personality, an individual identity. It is far better to make six casts to strategic spots than 50 casually over the lake. The more commotion, the more likelihood of spooking wary bass. Never cast just to be casting. Pinpoint each one carefully.

You fish the "edges" just as you do in any lake, no matter how large. Perhaps it will be to the edge of a stump, to the edge of gathered debris, to the edge of a weed bed, or if there is no other obvious cover, along the edge of the banks. In a typical pond, sloping from shallows along shore to deeper depths toward the middle, the majority of fish will be lurking within 20 feet of the banks.

Success or failure is determined *before* you make that first cast. In the case of a small farm pond, caution and stealth are necessary. Most ponds are not large enough to fish from a boat. When you get out on a boat in a tiny pond, it is like standing in a crowd and screaming your head off. Everyone knows you're around. The idea is to sneak up on the fish, to ambush them, to take them by surprise.

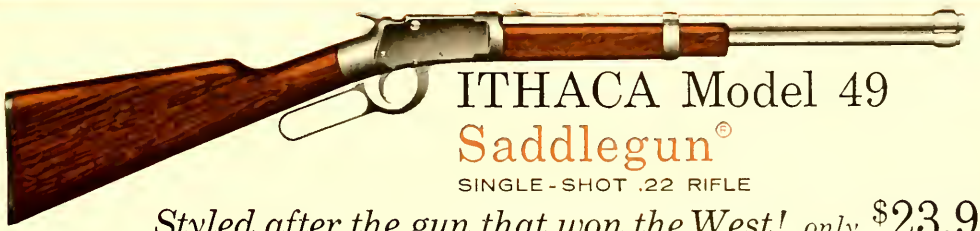
When the water is clear, stay well up the shore, putting out long casts. If there is any cover along bank, hide behind it to cast, even if you employ only the earthen dam which impounds the pond. Fish into the sun where no revealing shadows will be cast upon the water. Step lightly and avoid vibrations. Remember that fish trapped in a small pond are much more sensitive to vibrations than are their lake counterparts.

The type of pond and its location will dictate the bait you use. Plastic worms seem to be universally productive, probably because earthworms are found literally everywhere. Spoons and wobbling baits which simulate minnows and small sunfish also are good. Top-water lures which imitate frogs and grasshoppers often pay off better than anything else. In smaller, clearer ponds where the fish are increasingly spooky, minute bass bugs fished with fly tackle will produce when bigger baits that create commotion will not. Employ the smallest line possible. When obstructions and weeds are evident, you'll need a heavier line if you are to land any fish you hook, but don't use strong-test unless necessary. Big lines alarm fish and they tend to make long casts more difficult and change the action of your lures.

Approach the pond both systematically and wisely. Hit only the spots where bass are likely to be. If fish won't strike a surface plug, go to the opposite extreme and try one that bumps right along the bottom. Should you take a fish or two, only to discover action has ceased, allow the pond to rest for an hour or two to give alarmed fish time to settle into a normal routine. If the fish ignore conventional plugs, try miniature models. Should daytime fishing prove unproductive, consider night angling.

Catching big bass from a small pond is a real challenge. There is no margin for error. Precaution goes a long way. But the potential rewards are great, and the man who brings a trophy bass from a farm pond gets a satisfaction that no other fishing thrill gives. That makes it all worthwhile.

Farming's More Fun with an Ithaca Gun!



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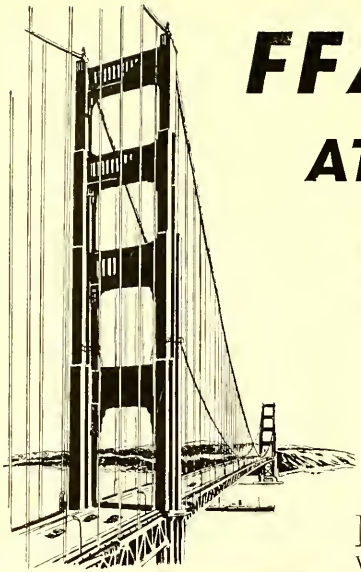

FFA AT THE GOLDEN GATE

NEARLY A century ago, Horace Greeley advised young men to "go West." And that is what three of your national officers did in a tour of the Golden Gate State, May 4-14. On the trip were Ken Kennedy, president; Evan Green, secretary; Ivan Hunt, Pacific vice president; and Paul Gray, national executive secretary.

A private plane owned by the Kern County Land Company carried the FFA officers on part of the tour which extended from Los Angeles to San Francisco. In commenting on the trip, Executive Secretary Gray said, "Looking down on that exquisite green, you begin to see what the records say about California being the number one agricultural state. That's one of the reasons we were there. California and the West are not only an agricultural center but an industrial center. Our objective was to tell the business and agricultural leaders what the FFA is doing to provide training and leadership experiences for young men. Our hope is to form a sponsoring committee to work with the FFA Foundation similar to others operating in cities on the East Coast."

In meeting that objective, Ken Kennedy and his fellow officers made several major speaking appearances, participated in the TV program "Agriculture U.S.A.," and attended the California Farm Bureau and state FFA conventions.

During the tour the young leaders met with company officials of American Oil, Dodge, Carnation, Kern County Land Company, U.S. Borax, and Sunkist. With remarks like "I'd like to hire that young man," "Best speech I've ever heard," and "Are there 400,000 more young men like these?" ringing in their ears, it appeared that they were well on their way to meeting the objectives staked out for the Golden Gate tour.

Back in Washington, at press time, we learned that a sponsoring committee has already been set up and they are busy planning for another visit to the California area by all national FFA officers during next year's regular goodwill tour.

FFA officers with the manager of the Los Angeles Dodgers, Walter Alston. The 39,000 fans were introduced to the FFA'ers. Gish is California pres.

AMONG THOSE FANS HERE TONIGHT..
ON A GOODWILL TOUR
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NATIONAL OFFICERS OF THE
FUTURE FARMERS OF AMERICA
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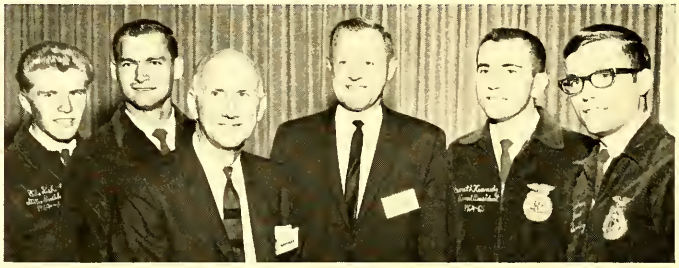
Paul Gray, left, with John Stearns on the TV program "Agriculture U.S.A."

Pictured after meeting with 80 industrialists are, from left, H. Hardy, American Oil; Gish; Kennedy; Gray; Hunt; Green; and H. Riemer, pres., U.S. Borax Co.



The FFA leaders are pictured with two FFA boosters, Mr. H. V. Nootbaar, left, president of L.A. Chamber of Commerce, and Allen Mather, Sunkist, Inc.

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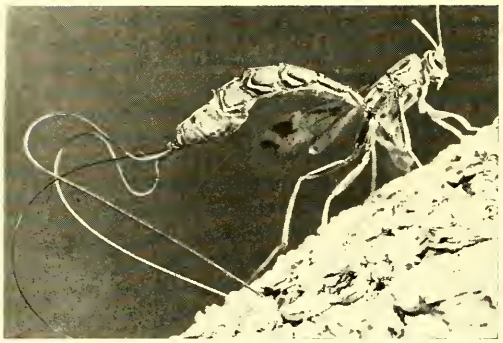


The Ichneumon wasp cannot sting man. Her stinger seeks tree damaging larva.

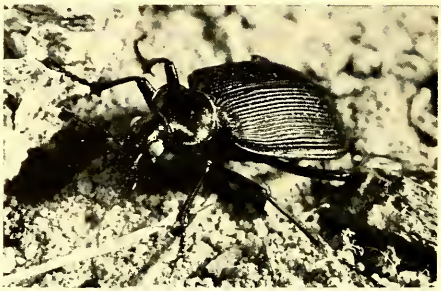
At top left is beneficial nine spotter. Below is man's foe, the squash beetle.

By James Maxwell

INSECTS

. . . friend or foe?

A California shrine is a reminder of the far-out ways that insects have helped man.



A ground beetle, one of 2,000 species, commonly known as caterpillar hunters.

WHO EVER heard of erecting a monument to a beetle? It's been done and by people as sane as you and I.

Certainly none of us have to be reminded of the constant devastation caused by insects the world over. We know insects have put to rout more armies, killed more people, kept more countries in perpetual economic squalor, and caused more billions of dollars damage to cash crops than all the wars, plagues, droughts, earthquakes, hurricanes, and fires known to man.

Yet the people of Humboldt County, California, have shown their gratitude to a black, shiny beetle no larger than a quarter inch by dedicating a monument to it. Why was this done? The story behind the dedication to the Klamath weed beetle is as long as it is fascinating.

This little fellow and his cousin, C. hyperici, were introduced into this country via Australia in October, 1944. It was hoped it would effectively control the pernicious Klamath weed then causing the loss of hundreds of thousands of acres of valuable western grazing lands.

After cautious scientific study, the first experimental beetle releases were made two years later. The results are history.

The offspring of the Chrysolinas tore into the Klamath weed with such ferocity that the weed ran a poor second, thus allowing space for the reintroduction of more favorable bunch grasses and legumes. Small wonder range owners of the West look upon this lowly insect with such admiration.

Could there be other insects in the world as beneficial to man as the Klamath weed beetle? The listing and description of such insects would fill volumes. For the Chrysolinas were not the first nor the last beetle to help man extricate himself from an economic hole.

As far back as 1888, the citrus growers of California faced ruin because of the uncontrollable cottony-cushion scale then devastating their trees. Who came to their rescue? It was another beetle, the now famous Vedalia, a ladybird from far-off Australia.

It was discovered cottony-cushion scale was this ladybird's meat and potatoes. She buzz-sawed through orchard infestations like a hungry child through a candy store. The results were swift and complete. Millions of invested dollars were saved, and countless millions were able to be made in the future. Once again growers owed much to an insect.

Why is it that so many thousands of otherwise intelligent people look with scorn at all insects, while other thousands are erecting monuments to them? Why are so many engrossed in a constant war of eradication against our so-called "Public Enemy Number One" when there is such an abundance of favorable testimony for the insect?

The complexities and uncertainties of insect control are, to say the least, confusing. The possible solutions are not easily arrived at, and the final answers are still unknown.

Yet, the hue and cry "Kill all insects and be done with it!" persists. The attitude that the only good insect is a dead insect is dominant whenever blanket spray programs are erratically handled. For the proponents of such theories fail to see where a few million dead insects will make any difference. This attitude is sheer idiocy and extremely dangerous to both insect and man.

For the sake of our future, let's examine this strange philosophy. From it we will gain a clearer understanding on just how beneficial insects really are.

(Continued on Page 48)

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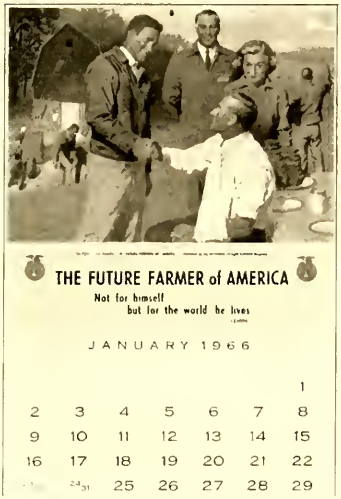
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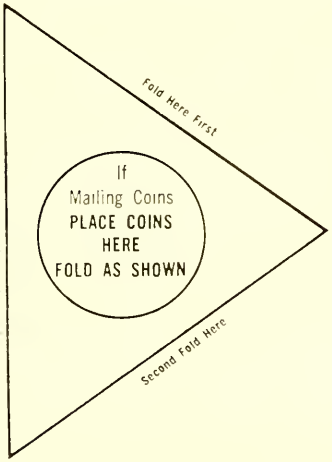


Insects

(Continued from page 46)

Bees, for instance, are insects and very busy ones. According to the "Kill 'em all" group, it would be permissible to kill all bees.

Only don't attempt to grow good crops of alfalfa after every bee in the neighborhood is clobbered. You won't stand a chance. Neither should you try to grow red clover after the bumblebees are gone nor, for that matter, over 50 valuable varieties of seed and fruit crops.

For alas, bees are far more important to us economically as pollinators than the 200 million pounds of honey and wax they produce yearly. Along with the honey and bumble will go the important alkali, leaf-cutting, and carpenter bees and 5,000 pollinating cousins, all working to help us produce prime crops.

On rare occasions wasps have been known to sting man. They are a nuisance to have about the house. Therefore, to the gallows with all wasps!

Tobacco farmers beware! These same so-called house pests, the Polistes, control 60 percent of the damaging tobacco hornworm in your fields. They make fritters out of corn earworms and mincemeat of army worms.

Trioxys and Proans wasps slaughter alfalfa aphids by the millions, aiding greatly in checking this once-serious pest. Minute Braconid and Chalid wasps kill many varieties of aphids. Some Chalid specialize in destroying cabbage worm eggs.

A variety of the Ichneumon wasp makes the destructive pigeon tremex wish it were never born. If you really killed all the wasps, the United States Treasury and the Bank of England would have to look for a new source of permanent ink. The Aleppo gall wasps account for the galls their present ink is processed from.

These are but a few of the thousands of examples of what would happen if insects were truly our "Public Enemy Number One." Many of our birds would starve. Our forests would reek of decaying corpses. Fish would starve by the millions. The prickly-pear cactus would take over grazing lands, for there would no longer be moths to control it, and so would the tansy ragwort on the West Coast.

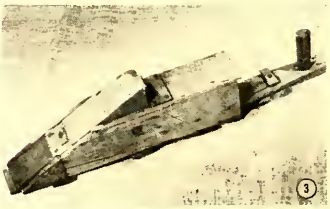
It is clear insects work more for man than against him.

"I cannot tell a lie—my sister isn't sick; she just thinks you're a drip."

Great Granddad Quiz

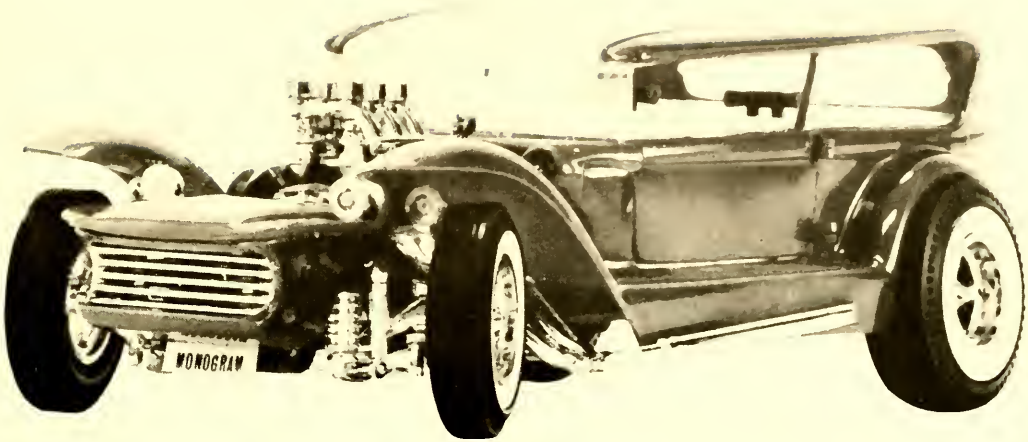
By Willard and Elma Waltner

WHEN GREAT granddad wended his way across the prairies and finally staked out a claim on the midwestern plains, he had to spend long hours getting the tough sod to yield a meager living. By today's standards, his farming implements were crude indeed, but great granddad was the "inventingest" person you ever saw. Some of the implements he thought up and fashioned were marvels of genius for his day. Though you might not recognize them, they were the ancestors of items which you use today. Others only filled a need for his particular era. How many of these early "labor-savers" can you call by name? If you're stuck, ask your granddad if he can recognize them.



Answers

1. Ox stake. Oxen staked out to graze at night were tied to this corkscrew.
2. Corn Sheller. Granddad stuck the ear into toothed opening and cranked.
3. Corn Planter. Point was pushed in sod releasing kernels into the niche.
4. Barrel Stave Groove Cutter. Used for cutting grooves on barrel staves.
5. Foot Warmer. To keep the gals' toes warm, hot coals were placed in box.
6. Brick Mold. Mud and straw packed in forms assured four uniform bricks.



Will your first job get you a flashy car–or a bright future?

There's a big choice not far ahead of you.

When you finish high school, you can take a job that looks good at the start. One that puts what seems to be a lot of spending money in your pocket.

Or you can take a job that helps you build for the future.

In the U.S. Air Force, you'll learn a vital aerospace skill, in a field such as electronics... jet engines...or guided missiles.

You'll work with the very latest equipment—equipment that makes the jazziest custom "rod" look like a kiddie car.

Your next few years are important ones. Don't waste them.

If you're going on to college, you may have the opportunity to earn an officer's commission while you work for your bachelor's degree. The Air Force ROTC program is available on 186 college and university campuses in the U.S. and Puerto Rico.

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Net Farm Income Nearly Doubled With

Cage Unit Partnership

Kenneth Soost made his way on the farm by developing a lucrative poultry enterprise.

Father-son team of Henry and Kenneth Soost gathers eggs from their 4,176 birds. Units have two birds to a cage.

A PROFITABLE father-son partnership on 160 acres? It didn't seem possible to neighbors, but Kenneth Soost, a Future Farmer from Wells, Minnesota, found the answer —a packaged cage layer unit to supplement farm income from feeder steers, grain, and hay.

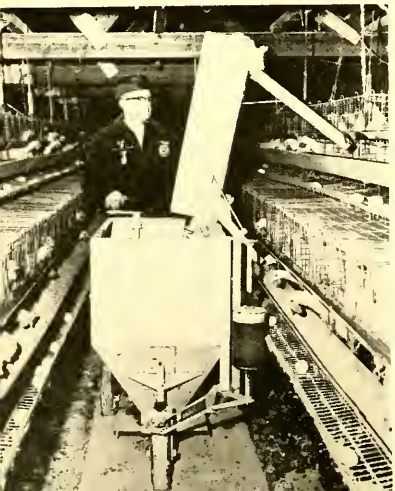
There are few large poultry enterprises in his area of southern Minnesota. This is corn and hog country. Nevertheless, Kenneth wanted to farm, and he had to boost net farm income if a partnership were to work.

A neighboring hatchery showed the Soosts how similar cage units have realized a net return of over a dollar per bird per year. "If we put in 4,200 layers, this could mean an additional $4,000 or more," the Future Farmer and his father thought. They decided to give caged layers a try.

A complete 4,200-bird cage layer unit would cost $16,000, plus the cost of 20-week-old started pullets. Would they be able to get that much financing from the bank? A trip to Wells gave them the answer—the local bank would loan them the full amount on a renewable farm note. No down payment was required.

With financing out of the way, the Soosts selected a site across the road from the barn for the cage unit. By February, 1963, the 32- by 158-foot unit was completed. There were 2,088 cages, arranged in stair-step order for easy manure removal. Automatic water lines ran the length of the two tiers of cages. A six-ton bulk feed bin supplied a self-propelled feed cart that filled both rows of cage feeders —all 4,176 birds—in 20 minutes per feeding.

With self-propelled cart Kenneth Soost feeds his layers, two tiers at a time.



An offset of the completed cage house included a paneled farm office and a 6- by 10-foot egg cooling room. "Can't think of anything better than this farm office," the Future Farmer explained over records spread on the desk. An extension phone was at his reach. Behind him was a sink in which to wash before leaving the cage house.

Soon after completion, the cages were filled with layers, and Kenneth was in business. He had balanced a laying ration and made plans to grind and mix his own feed from farm-grown corn and oats plus protein concentrate. Oyster shell and grit would also be added to the ration.

"We mix a 17 percent protein ration," he said. His ration includes 1,350 pounds of corn, 100 pounds of oats, and 550 pounds of a 38 percent protein concentrate. Cost per ton comes to $64.45, including a payment of $3.00 a ton to himself for mixing, plus elevator prices for corn and oats used. Filling the six-ton feed bin covers feeding operations for nearly two weeks. Figuring that during the 455 days in a laying cycle the hens consume 210 tons of feed, the FFA member pays himself $630 for grinding, mixing, and machine depreciation.

Marketing the eggs proved to be no problem. There was a ready demand for clean, fresh eggs from the modern cage unit. A nearby buyer contracted for all eggs to be shipped to Osage, Iowa, where they would be cartoned for shipment throughout the United States. He gets a premium of nearly 4 cents a dozen over what smaller producers in the area get. This makes quite a difference on the basis of shipping an average of 1,500 dozen a week over the entire year.

"This 3-cent and 4-cent difference in price is a major factor in determining profit," the Future Farmer said.

Last summer the FFA member completed his first cycle of caged layers, had the house cleaned, and within a week filled it with layers again. Farm records showed a net return of over $4,300 from the caged layers for labor, depreciation, and interest. "We should pay for the unit in five years," Kenneth said. He estimates it took him two hours a day to do all feeding and egg gathering.

In the meantime, local FFA Advisor Arnold Carlson made it a point to bring Wells vo-ag students to see how a fellow Future Farmer had nearly doubled the farm net income.

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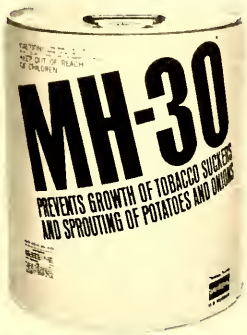

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Ronald's Olympics

Fiction
by
William Poese

"I'LL TAKE Red." "I'll take Charlie." "Come over here, Jerome." "You're on my side, Mac." The captains were choosing sides for the gym period basketball game. Everyone was chosen except Ronald. He was the odd one. In fact, he was always the odd one. He was the last to be picked and the first one to spoil a score.

"Hey, Jack, you have to take Ronald. It's your turn to pick next."

"Oh no, you take him. You have Red on your side. You'll win even with Ronald to slow you down."

Ronald didn't feel very good about his lack of popularity in gym class, but he was used to it. It had been the same in elementary school. In junior high he had similar experiences. The three days each week that he had gym were horrible. He had the skinniest arms and legs in the group—any group that he was in. He was always out of step. He would trip even if there was nothing to trip over. Some of the guys had good builds, some were fair, and there was Ronald. He was like a piece of string.

He was more discouraged than usual when he stopped in the coach's office after school. Ronald felt uneasy in the office because it had the tennis shoe odor of gym.

"Mr. Johnson, is there any way I can get out of gym?"

"No, gym is a state requirement, and as long as you are physically able, you're taking gym, Ronald. Some of these fellows don't need it half as much as you do. You know, it might even do you some good."

"Yes, I suppose so, but I'm always the last one to be chosen and the first one to louse up for my side."

"Don't let it spoil your day, but you're taking gym. I wish I could get that into your head."

"Well, I wish. . ."

"And by the way, Ronald, stand up straight. Don't be so round-shouldered."

Ronald straightened up and in doing so, he dropped two books, his slide rule, and a pencil. During the conversation the coach was rolling a baseball from his hand down his arm to his biceps. When the ball came to that point, he flexed the muscle and the baseball popped up. He caught it and repeated the action.

"I sure want to help you, kid, but. . ."

"Yes, Mr. Johnson, you do but. . ."

Ronald realized, of course, that it would have to be that way. It always ended the same. "You're taking gym."

The next day Ronald dressed and was standing in the corner while the rest of the boys were shooting baskets and having fun. He did not know what form the torture would take today, but he knew that Mr. Johnson would come out in a few minutes, blow his whistle, and announce it. "At least," Ronald mused, "it's a little better than boiling in oil."

Mr. Johnson came out. "All right boys, put the basketballs down. I want to talk to you. That means you, too, Red."

The class sat down cross-legged with their knees in the air. Ronald's bony knees were conspicuous. The coach continued: "Open House this spring semester is going to be a little different. Instead of an auditorium program the emphasis is going to be on physical fitness. The program will be here in the gym, and it's up to us to put on a show for about 45 minutes. We can have tumbling, pyramid building, weight lifting, a wrestling match, and a short basketball game; but I'd like to tie the whole thing together with a story—a theme to run through the program. If anybody has an idea, let me know. We sure want to look good on this deal."

After class Ronald stopped by the coach's office. Mr. Johnson looked up from the baseball rolling routine. By this time he was proficient.

"Yes, Ronald, you're taking gym. I've told you a dozen times you need gym. I don't care if you have two left feet and two left arms. Now, is there anything else I can console you about?"

"That's not why I came. During gym class I was thinking about the Open House program."

"What's on your mind?"

(Continued on Page 54)

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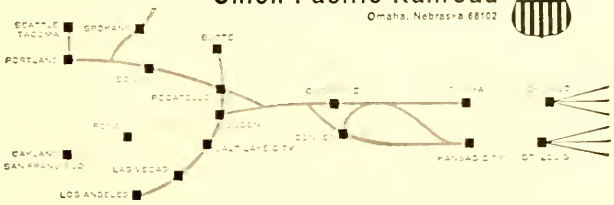

Ronald's Olympics

(Continued from Page 53)

"For history class I did a paper on the origin and history of the Olympic games, and it might be a good idea to base our gym show on the ancient Greek Olympics. I could write the script. I got an 'A' on the paper, and I could use a lot of those ideas for the program."

"Yes, I know you got an 'A' in everything except gym, but what could you do? We sure want to look good with all the parents here."

With that Ronald dropped his slide rule.

"Ronald, do you always carry that thing around with you?"

"Oh no, Mr. Johnson, only when I am in school. It surely is helpful. But about the program. . ."

Ronald explained the history of the original games and the run from Marathon to Athens. Then he described his plan.

When the big night came, Ronald was at the mike in the coach's office. His voice boomed from the loudspeaker. "Ladies and gentlemen, the Boys' Physical Education Department welcomes you to Open House. In a framework of the ancient Olympic games, we plan to show you what we are doing by way of physical fitness.

"Down through the years the Olympic games have provided all nationalities, races, and religions an opportunity to meet and display their athletic prowess, but they do more than that. They are a force to help maintain peace in the world. As peoples have greater opportunities to know each other better, to work and play together, they develop understandings so that we can hope eventually war will become a thing of the past.

"Tonight we present for your enjoyment the Lincoln High School Olympics." The trumpets blared and Big Red ran out and circled the gym floor, carrying a torch. The games had begun! Ronald played the sound effects at just the right time and worked out details with split-second timing. Except for a few slips because two boys forgot what they were to do, everything went smoothly. Ronald's script was almost poetic in parts. He seemed, somehow, to give the impression that even he thought athletics could save the human race from inevitable destruction.

As each group of boys finished their act, they formed a large semicircle at the back wall. Ronald's voice rang out over the public address system. "Now, ladies and gentlemen, you have seen our version of the ancient Grecian Olympic games and the part the athletic program plays in the life of your son. I am certain that you agree with the ancient Greeks in their enthusiasm for these activities."

Ronald concluded and the P.A. system clicked off. Coach Johnson stood up from his seat on the bleachers. He walked to the middle of the gym. "Yes, parents, I hope you agree with the author of the script. I should like you to meet the real hero of the Boys' Physical Education Department's show —the young man who not only served as announcer for our program but also is responsible for writing every word of the script. He has a wonderful idea of the objectives of physical education. Ronald Barnes, come out here."

Ronald opened the door without stumbling. When he saw and heard the entire squad cheering for him, he developed enough nerve to walk over to Mr. Johnson. Ronald adjusted his glasses and pushed a strand of hair out of his eyes. The coach put his arm on Ronald's puny shoulders and said, "Here he is, folks. We sure are proud of him."

The applause was wonderful. Ronald felt as if he had made a touchdown, a home run, and a basket all rolled into one. Actually, he had made the entire athletics program look good as a result of his cleverly written show.

As the young coach and Ronald stood in the middle of the gym, they presented an extreme contrast. Ronald was different from the boys who were outstanding in physical education classes, but he was so successful in his academic work that he could use it in a gymnasium.

Red looked at Charlie. "You know, Charlie, we've played on the team for a couple of years, and the coach never put his arm on our shoulders like that. I'd almost trade my football, basketball, and baseball letters for that guy's brains."

Ronald was never prouder of any grade than the "A" he got in gym that semester. He realized, too, that the Olympic Creed states that the important thing is not winning but taking part. From now on he'd take part in athletic activities.

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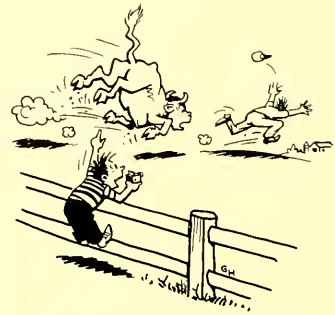

"Around this way, Pop! I want a close-up for the school photo contest!"

Special Table For Welding Demonstration

By
Dale Cotton
Oklahoma FFA Executive Secretary

A NEW welding demonstration table in the Norman vocational agriculture shop is making it easier for students to learn welding skills. Shop instructor E. C. Kitchens built the metal table and then erected a shield around three sides from a dark, heavy plastic-type material. The sides are low so students can easily see over the top when Kitchens is explaining various welds and they can kneel down and look through the material when he is actually giving a demonstration.

A maximum of nine students can watch the demonstration before they attempt to do the same weld on their own.

This is one addition to the all-new shop building, which has ten arc welding booths and ten acetylene welding stations. Other stations are being provided in plumbing and sheet metal working, small engine repair, electricity, masonry, engineering, and carpentry.

An enrollment of 136 students in vo-ag requires two teachers. The other vocational agriculture instructor is Doyle Edge.

Viewing a welding demonstration through this protective material allows nine students to watch at the same time.

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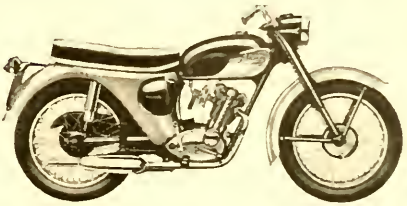

If it's price alone you're thinking of, don't buy a Triumph. There are cheaper cycles on the market. For example, our Tiger Cub Lightweight costs from 20 to 45% more than many other so called "lightweights." But the truth is — you get what you pay for, much the same as in farm mechanical equipment. Most of these lightweights are not motorcycles at all. They're hybrids, something between a scooter and a real Lightweight motorcycle like the Triumph Tiger Cub.

So before you buy — compare. You'll find nothing on the market that matches a Lightweight Tiger Cub for the price. Who needs a *real* motorcycle? What do you get for the money? Performance. Which means power transmitted from the engine and year-in, year-out reliability.

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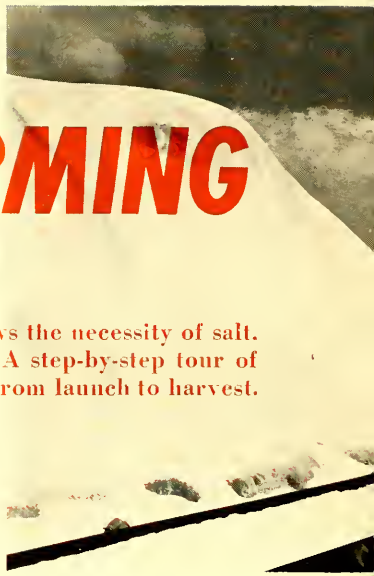
SALT FARMING



Every stockman knows the necessity of salt, but how is it grown? A step-by-step tour of this farming process from launch to harvest.

By
Gladys Wilson

CLOUDS APPEARED on the horizon, and a group of Utah "farmers" watched the sky anxiously. It was nearing harvest time, and their entire crop depended on continued hot, dry, windy weather conditions. Their crop—salt.

A normal salt-growing season in Utah is about four months long. During this time the action of sun and wind work to produce a crop that has a myriad of uses.

Salt was discovered in natural deposits long before recorded history. The earliest written reference to salt is found in the Bible (the Book of Job, 300 B.C.), and salt has played an important part in history the world over. Caesar's soldiers were paid partly in salt. During Napoleon's retreat from Moscow, 400,000 soldiers died when their wounds would not heal because their systems lacked salt. During the American Civil War, salt factories in Virginia and deposits of salt along the Louisiana gulf coast were lost by the South, and by 1863 the southerners couldn't buy salt at any price. This influenced the war's duration.

Long before there was a science of chemistry, men discovered salt would preserve their surplus food, and in ancient times the importance of salt as a nutritional ingredient for man and animals was recognized. Today the uses of salt run into the thousands. It goes into every home, onto farms, and into textiles, hides, and lipsticks. It is a handy carrier for drugs. In winter it is sprinkled by the ton on ice-covered highways. It is a basic building block for all industry.

The importance of salt to farm animals is known to every stock farmer. Wild animals travel long distances and risk life to lick natural salt deposits. Dairy cows require salt in their diet to maintain milk production. Man requires the chloride and sodium of salt to maintain osmotic pressure in body cells, the basic factor in food absorption and waste excretion of cells. Gastric juices depend on hydrochloric acid, a chemical derivative of salt, for their action.

Millions of years ago, man noticed salt crystals appearing in trapped pools of sea water. He built ponds, filled them from the sea, and let the sun and wind evaporate the water, leaving salt for his use. This is called the solar or sunshine method of salt production and is one process used by salt "farmers" today.

Near Salt Lake City, the briny water of Great Salt Lake is one of the starting points of salt farming. Two types of ponds are used. The first is the concentrating pond, where salt-laden water is settled and concentrated; and the second type is a crystallizing pond, where the salt is actually produced.

Starting each spring, water from Great Salt Lake, containing 15 to 25 percent salt, is pumped three miles to the concentrating ponds. Action of the sun and wind evaporates the water so that gradually the salt concentration

High speed belt slinger places salt in storage piles until needed at the mill.

Salt is removed from "garden ponds" and trucked to these hoppers where the big conveyer belts move it to storage.

reaches the saturation point. At this time, clear saturated brine flows from the concentrating ponds to crystallizing or "garden" ponds, where salt production occurs.

Crystallizing ponds range in size from 15 to 90 acres and are characterized by a thick salt floor which has been deposited over a period of years. As the salt-making season progresses, a continuous flow of brine is maintained through the crystallizing ponds. The bitterns, which remain after most of the salt has precipitated, and a large percentage of the water evaporated are returned to Great Salt Lake. Through careful control of the density of remaining brine, a purified salt is deposited.

In a normal season, salt making starts in May and continues until the first of September, when a crop about four inches thick has been deposited on the permanent salt floors.

At harvest time the ponds are drained. Mechanical harvesting machines lift the crop from the permanent salt floor and deposit it in trucks which carry it to stockpiles.

Salt is then conveyed to dryers where the first step in the milling process takes place. The salt is dried at 300 degrees F. in gas-heated kilns. From dryers the salt is passed through rotary coolers and screened, producing various grades of salt. The balance is ground in large roller mills and screened to produce finer salts.

Many of these salts receive mineral additions to produce specialized products for cattle feeding and other industrial purposes. Additives are mixed with some grades to enhance the free-flowing qualities.

Besides the solar or sunshine method, there are two other major salt production methods: mining and evaporation. The mining method uses cutting tools and explosives to remove salt from formations that may be reached from the surface. The evaporation method recovers salt by pumping water into ground beds and bringing up the resulting brine. Salt crystals are obtained by boiling off the water.

All three methods are used in the United States, but the solar or sunshine method is the same one used by prehistoric man, although the process today is strictly modernized. Even so, these salt "farmers" have the same respect for weather that all farmers have. When one hot, dry, windy day follows another throughout the growing season, salt farmers are assured their crop will yield 400 to 500 tons per acre.

Mechanical harvesting machines remove salt from the "garden ponds."

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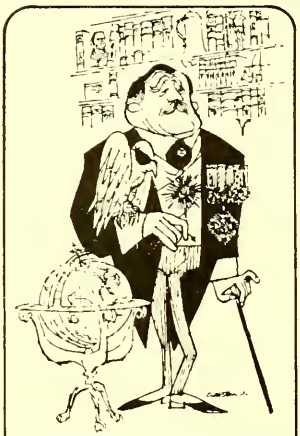

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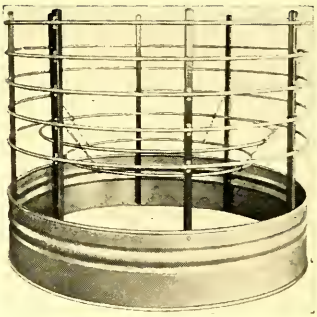
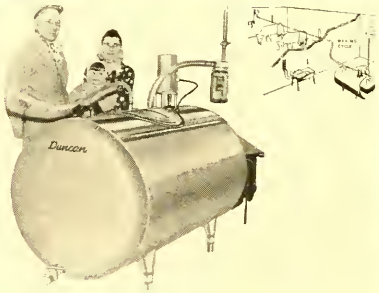


M. A new round steel feeder for hay can be tipped on its side and rolled to a new spot in wet weather. The Rolling Feeder holds 14 to 16, 70-pound bales. (H. D. Hudson Co.)

N. A completely automated, time-clock-controlled liquid hog feeding system feeds hogs in five seconds and refills during the eating time. Stress is eliminated when hogs are fed every two hours. (James Mfg.)

O. New razor blade stainless steel pocketknives give "friction-free" cutting that makes other knives old-fashioned. (Imperial Knife Co.)



P. New cow-to-tank pipeline milking system is built especially for the farm with a small dairy herd. Low-cost and vacuum-operated, the system enables the small farmer to milk more cows (Zero Mfg. Co.)

Q. New pH Soil Tester is simple to operate, and no reagents or chemicals are required. For field or cup testing, insert in soil for one minute to obtain an accurate soil test. Comes in case. (Kel Instruments)

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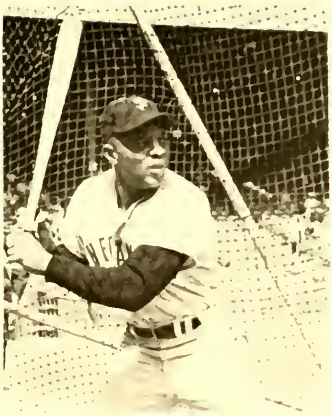

Willie Mays of San Francisco's Giants. He was runner-up in voting on the most valuable player of '65 All-Star Game.

THE NATIONAL League centerfielder in Baseball's 1965 All-Star Game was the "Sey Hey Kid," Willie Mays of the San Francisco Giants. It was his sixteenth All-Star Game in 11 years since he appeared in the two-game seasons from 1959-62. Mays needed only one hit to beat Musial's All-Star hit record, and he got it in a big way. As lead-off man, he opened the game with a home run that set the crowd buzzing. It was his third homer in All-Star play. He walked twice during the game and scored the winning run in the seventh.

The experts were ready to begin the closing chapter of Willie's amazing career last year when his batting average dropped to .296. He may be a half step slower at 34, but he is still the best centerfielder in baseball today. With this season nearing the halfway mark, his .342 batting average is leading the league. His 22 homers top both leagues, and his 51 RBI's rank second. In a twin bill against Pittsburgh on June 20, he had seven hits in nine times at bat, scored three runs, batted in two runs, and two of his hits were doubles. It looks as if 1965 could be one of his best seasons.

Willie Mays has come a long way since leaving the high school diamonds in his home state of Alabama. Even in those days he was an outstanding athlete, starring in baseball, basketball, and football. After signing with the then New York Giants in 1950, he was assigned to Trenton where he hit .353. He moved up to the Minneapolis farm club in '51 and, after hitting .477 in 35 games, was called up to the Polo Grounds in New York. This was his home until the Giants moved to the West Coast in 1958. He got off to a good start in the majors, hitting .274 with 20 homers in his first season. Starting slowly in 1952, he was hitting only .236 when he was drafted into the U. S. Army.

Willie rejoined the Giants in 1954 and helped them win the National League pennant. He won the batting title with a .345 mark, hit 41 homers, and was named the League's Most Valuable Player. In the next ten years Willie's batting average dropped below .300 only twice, and both years he hit .296. He is an excellent base runner and led the league in stolen bases four years in a row: 1956 with 40, 1957 with 38, 1958 with 31, and 1959 with 27. He hit four homers in one game in 1961 and set a new record last year by hitting two or more homers in one game for the fiftieth time. He has been the homer champ three times: 51 in 1954, 49 in 1962, and 47 in 1964.

Willie's 11 consecutive seasons of 100 or more runs scored and eight of 13 seasons with 100 or more RBI's are important to the team, as you must score to win. He has been the spark plug of the Giants with his hustle and determination and is now the team's field captain. He is known for his defensive ability in chasing fly balls. Fans still talk about the catch he made in the 1954 World Series. Cleveland's Vic Wertz hit a line shot labeled for extra bases to deep centerfield, but Willie turned and, running at full speed, made an over-the-shoulder catch right at the wall. He charges a grounder to the extent that other fielders have called him reckless. Once he catches up with the ball, runners do not challenge his fine throwing arm too often.

In adding up Willie's assets, you have a player who can hit well and with power and who has good speed in the outfield and on the bases, a fine throwing arm, and good judgment. In 13 years he has played in 1,847 games for the Giants, gone to bat 7,036 times, and hit safely 2,204 times for a lifetime batting average of .319. Among the hits were 453 homers, 354 doubles, and 115 triples for an amazing lifetime slugging percentage of .589. It looks as if Baseball's Hall of Fame will need a big plaque to list all of Willie Mays's achievements.

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Worried about what to give his girl friend for her birthday, a boy asked his mother for help. *"Mom,"* he said, *"if you were going to be 16 years old tomorrow, what would you want?"*

Her heartfelt reply was: *"Not another thing."*

James Fleming, Jr.
Millen, Georgia

The sage who said *"Go West"* never had to figure out how to do it on a clover-leaf intersection.

John Breneman
Dalton, Wisconsin

"Let's just ignore them completely—if we don't get any encouragement."

Bill: *"How can you tell a happy motorcyclist?"*

Will: *"I don't know."*

Bill: *"By the number of bugs on his teeth."*

Paul Grover
Rexburg, Idaho

Note on a windshield: *"I have just run into your car. People have seen me and think I am writing down my name and address. They are wrong."*

George Bilbrey
Algood, Tennessee

On the first day of school, a first grade teacher was asking the pupils their names. One little boy replied, *"Tractor Brown."*

"Now what is your real name?" asked the teacher.

"Tractor Brown," answered the little boy.

"I will give you five minutes to tell me your real name," said the teacher.

After waiting five minutes, she again asked him what his name was.

"Tractor Brown," said the little boy.

"All right, you just go right home," said the teacher.

Then the little boy went back to another desk and said, *"Come on, Chicken Coop, she won't believe you either."*

Jeff Derr
Ashville, Ohio

Doctor to little boy: *"I am afraid, my little man, you have been eating too much cake and sweet stuff. Let me see your tongue."*

Little boy: *"You can look at it, but it won't tell."*

Garry Walton
Kanawha Head, West Virginia

Pioneers who blazed the trails now have descendants who burn up the roads.

Mike Young
Lewisport, Kentucky

Sign on a pasture gate next to park where young couples ogle one another: *"Shut the gate, lover boy. Our heifer is harder to catch than the one you're chasing."*

Gary Lillich
St. Francis, Kansas

Most of us know how to say nothing; we just don't know when.

Duane Lee Starr
Ridgeville, Indiana

A South American diplomat was telling an American student about his country. *"Our most popular sport is bullfighting,"* he boasted.

"Isn't that revolting!" exclaimed the student.

"No," the statesman corrected, *"that's our second most popular sport."*

Fred Sauber
Defiance, Ohio

"This looks like a good spot."

Always behave like a duck. Remain calm and unruffled on the surface, but keep paddling like fury underneath.

Johnny Sherrer
Bay City, Texas

Two Hollywood goats found some film in back of a studio, and one began to eat it.

"Is it good?" asked the other goat.

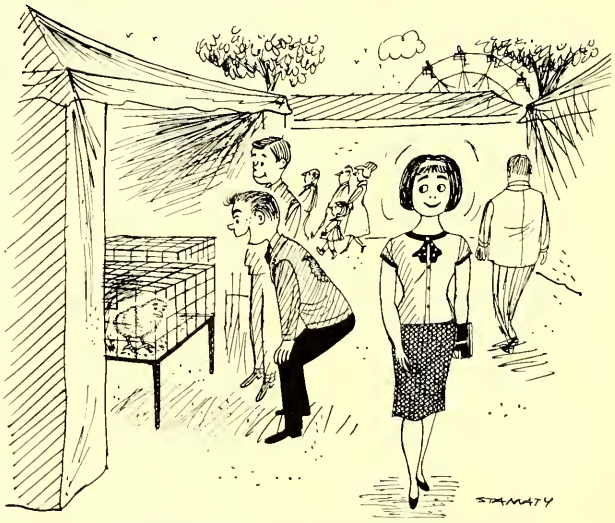
"Yes," was the reply, *"but I liked the book a little better."*

Shirl Stewart
Spanish Fork, Utah

A famous public speaker gave the secret of his success as follows: *"First, you think up a good beginning. Then you think of a good ending, and you keep them as close together as possible."*

Tommy Lager
Baudette, Minnesota

Charlie, the Green Hand



"Boy! There's the cutest little chick I've ever seen!"

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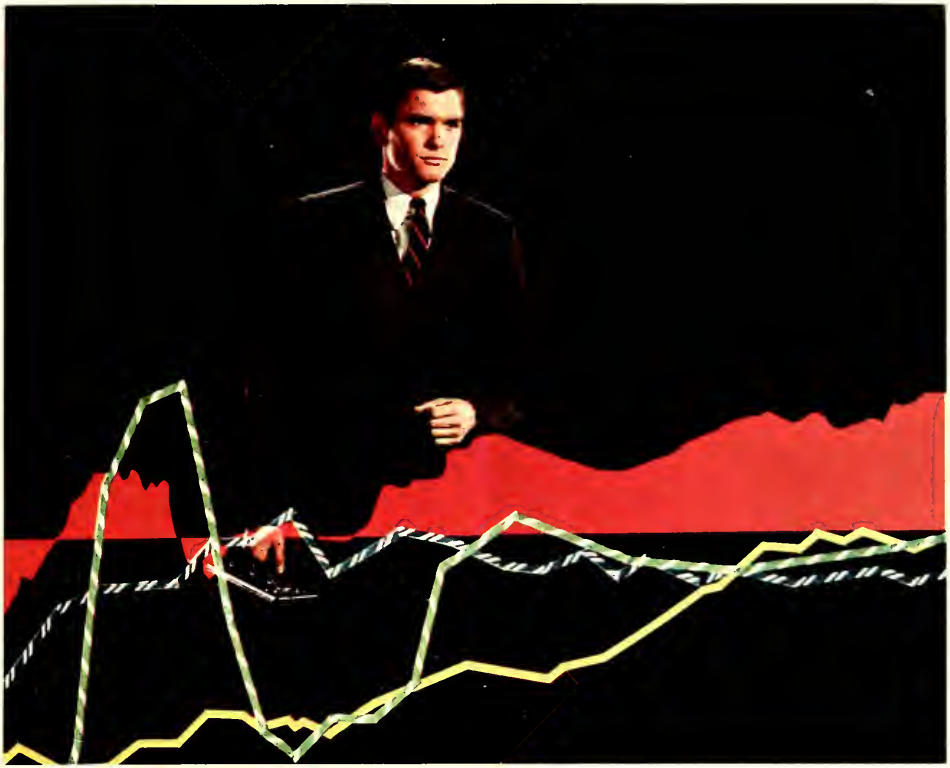

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